The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLIII. CHICAGO, ILLINOIS, JULY 16, 1904. No. 3.

Address.

THE SURGEON'S HERITAGE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON SURGERY AND ANATOMY, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

CHARLES A. POWERS, A.M., M.D.

DENVER, COLO.

My first duty is to thank the members of the Section for the honor which they conferred on me when they made me its Chairman a year ago. To be selected to preside over this body of representative American surgeons is indeed a distinction.

The career of the Section has been in all ways and at all times most creditable. Its age is nearly that of the Association itself. The Association dates from 1846, while the Section on Surgery first[1] organized on June 7, 1860. With the exception of the year 1863, it has been an active Section ever since. In 1860 Dixi Crosby was its chairman. Since then the following, among others, have served as its presiding officer: Henry J. Bigelow, A. C. Post, S. D. Gross, J. L. Atlee, Paul F. Eve, E. M. Moore, A. Garcelon, D. Hayes Agnew, H. H. Smith, Moses Gunn, W. T. Briggs, Hunter McGuire, Duncan Eve, Nicholas Senn, H. H. Mudd, Donald McLean, N. P. Dandridge, B. A. Watson, Theo. McGraw, J. McF. Gaston, J. F. Jelks, J. B. Roberts, Joseph Ransohoff, C. A. Wheaton, Reginald Sayre, W. L. Rodman, W. J. Mayo, H. O. Walker, A. J. Ochsner, DeForest Willard and James E. Moore. A distinguished company, to be numbered with which I feel proud, but unworthy.

As one reviews the names of these eminent surgeons, his train of thought leads, perhaps, to a consideration of the deeds of the early men among them, of their predecessors, and then, perchance, to the heritage which we are to transmit to our successors. No student of the history of medicine in America, as set forth by Roswell Park, F. H. Brown, S. A. Green, J. R. Quinan, the elder Gross, Mumford, Packard, Billings and others, can fail to be impressed with the spirit of devotion, of unselfishness, of never-failing courage which has at all times characterized the physicians and surgeons of our country. Our profession has always commanded the services of truly great men—seekers after the truth; men who accomplished far more than they thought, and who builded better than they knew. Until recent years no practitioner in America was a surgeon simply. Among our physicians were men who devoted much of their time to the study and practice of surgery. They were especially proficient in surgery, but they practiced as physicians as well. Indeed, as late as 1878, Gross said: "There is not a medical man on this continent who devotes himself exclusively to the practice of surgery." Physicians and surgeons they were, but truly great as surgeons were the Warrens, Physick, Mott, McDowell, Dudley, Gross, Gurdon Buck, Sims, Bigelow and their compeers. Do we realize how much we owe to them in character as well as in work? Do we appreciate the difficulties under which they labored, and do we cherish for them that reverence which is their due?

In a recent address before the Medical Department of the University of Liverpool, Sir Dyce Duckworth,[2] in speaking on "Reverence and Hopefulness in Medicine," said:

> The reverence I have now in my mind relates rather to the great men who have preceded us in our calling, and to the work and influences they have left as our heritage. A habit of reverence is, indeed, everywhere becoming, but I venture to think it is less manifested in these days than was formerly the case. An absence of reverence may be safely regarded as a symptom of decadence in manners. The spread of democracy and an extension of education need not necessarily entail bad manners, or even any lapse from the better ones of the past, but those who have reached my time of life can testify to a somewhat prevalent spirit of irreverence, and a tendency to a laxity of manners and conduct which was certainly less marked in our earlier years. Such conduct, if not immoral, is at least significant of bad breeding. Good manners never savor, as it is sometimes supposed they do, of servility. With Kingsley I will say that "reverence for age is a fair test of the vigor of youth, and conversely, insolence towards the old and the past, whether in individuals or nations, is a sign rather of weakness than of strength."

This is an age of active experimentation and research, and there is a tendency in such studies to engross the observer so fully with his own speculations and results that he is apt sometimes to overlook, or even disregard, the conceptions and work of those who have tried in former days to seek out truth. The marvellous aids with which modern science has furnished the investigator of to-day are apt to make him forget the slender equipment which was available for his predecessors and the difficulties of the problems which then faced them. He thus fails to realize the value and intensity of the mental acumen which alone carried them to such revelations as they made.

Samuel Johnson affirmed that "if no use be made of the labors of past ages, the world must remain always in the infancy of knowledge; if every man were to depend on his own unassisted observation for his knowledge of disease every man would be marvellously ignorant, and the science of medicine would stand still or cease to be." I venture to assert that if our surgeons read more of the work of the early masters their own views would be broadened and softened and made more

1. THE JOURNAL A. M. A., June 7, 1902.

2. British Med. Jour., Oct. 3, 1903.

tolerant. Deaver says that in the surgery of the day a vast amount of anatomic ignorance is concealed under a cloak of antiseptic detail.

I have alluded to the fact that these earlier men were both physicians and surgeons, but the enormous growth in the field of surgery during the past quarter of a century has resulted in its establishment as a distinct occupation coequal in importance, if you will, with internal medicine, and to it are attracted each year a large number of the brightest and ablest of our medical graduates. Indeed, where twenty-five years ago the medical service was preferred by hospital internes, the surgical side is now chosen. This brings to our ranks recruits of the highest order, and to these men are furnished for solution problems which may worthily engage the best minds.

In a recent number of a somewhat prominent lay periodical,[3] an editorial writer, under the caption, "From Priest to Physician," discourses on the conditions which attracted the ablest of the college men a century and a half century ago, and those which attract them to-day and will attract them in the future. The writer traces the changes which have taken place in undergraduate study, the lessened time given to the humanities, the increased importance attached to scientific training. He tells us how for many years the priests made up the majority of educated men, and how the clergy were in turn succeeded by the lawyers or the lawyer-statesmen. He says that men who are now in the middle period of life, and who are doing the hard work of the world, recall the day when the leading men of the college classes ceased to choose the ministry and went to the bar, for the lawyer, not so many years ago, was the one inevitably called on to take the lead in politics. The writer further says:

> In the meantime (this time of the domination of the church and then of the bar) science loomed large in the imaginations of men, and the colleges were forced to consider as important certain subjects—like chemistry, biology, physics—which they had neglected through the years before the evolutionists and their literary interpreters came into their deserved and beneficent prominence. The study of the laws of God as they are manifested in nature stimulated wide inquiry, and the strongest men, led as men always are, to seek for power and influence through the efforts which they love for themselves, sought for practical benefits to humanity by means of their favorite sciences. So medicine flourished. So the noble art of the surgeon advanced. Intrepid men dealt hardily with man and his body. They dived into it and discovered its inmost secrets. A century ago the work of the modern surgeon would have been denounced by the theologians, who then ruled mankind, as audacious intrusions into the exclusive jurisdiction of God. Two centuries ago, or, at the furthest, three, the man of science who would take out the viscera of a man, cut out their disease, and put them back, would have been fortunate to escape the stake or the block. But the audacious invader of the secrets of the body, the beneficent healer who, with his phial or his knife, lessens the miseries of humanity, diminishes or destroys pain, prolongs life and smooths its pathway to the grave—this is now the man who appeals most strongly to his fellow-beings. For him and his training the captains of industry are pouring out their millions, building him colleges and laboratories, endowing professorships, while the world at large hails him as the man of power and influence at a time when wealth is accumulating and when men are not decaying. More and more, very likely, we shall see the strong men of the college classes choosing medicine, although the time has not yet come for domination over the lawyer, who is now engaged in settling the direction and the form in which the captains of industry shall carry on their development of the world's wealth. The time seems to be coming, however, when the indefinite prolongation of human life, and the destruction of the enemies of human health—a work which almost suggests the creative power—will be the task that will call for and will receive the service of the best training of our colleges and universities—that is, when the appeal of medicine and surgery will be addressed inevitably to the best in every college class, just as once the call came from the ministry, and then from the bench and bar and senate house.

I believe that the forecast of this lay writer will be realized, that medicine and surgery will attract an increasing proportion of the ablest minds, and that of these, in turn, the larger number will embrace the surgical branch of our profession. And the central thought which comes to me as I write reverts to this heritage of ours which comes to us from these men of the past, and which we are handing over to the splendid men who are becoming our fellow-craftsmen.

It is not enough to say that the man who is to devote his life to surgery should be thoroughly grounded in physiology, anatomy, pathology and bacteriology; that after a service as a hospital interne he should work for years in the out-patient department, gaining by degrees a foothold in the ward work; that he should know well the modern languages, should cultivate early a taste for literary work, should be a student of drawing, mechanics and the like. To my mind the surgeon should have many of the intellectual qualities of the naturalist. He should be able not only to classify but to understand the various classifications. He should be broad outside of his surgical world. His mind should be receptive to the advances made in pure science. All advances made in the collateral sciences will help to forward surgery. Further, one advance opens the way for others, just as antisepsis made safe not only existing operations, but hundreds then unknown. Chemistry and biology constantly contribute to surgery, and to make the best use of such contributions the surgeon should be a man of broad scientific training. He should be trained to think scientifically before he begins his studies in medicine; and, further, the surgeon should have a judicial cast of mind, and should early train himself to choose wisely between the operative and non-operative, to decide what, in a given case, is truly conservative.

I believe that it is a common fault with the younger men to overestimate the operative side of surgery, a fault shared by many of us who are older. During the past few years operations have multiplied enormously. The blessings which they have conferred can not be estimated. But the field of surgery is far larger than can be seen through the operative glass, and without being led too far from our subject, I would ask whether we undertake our operative work with less of forethought now that it has become so very safe; whether care in diagnosis keeps pace with security in operating; whether we bring to a given case the degree of preparatory study which the case itself demands, and whether we carefully, patiently and laboriously work out a diagnosis before operating or too often trust to the operation itself to make the diagnosis for us? Billroth, in writing to a Russian surgeon regarding the fatal malady of Pirogoff, a palatal neoplasm, refused to operate or to advise an operation, saying:

> I am not that bold operator whom you knew years ago in Zürich. Before deciding on the necessity for an operation I always propose to myself this question, "Would you permit such an operation as you intend performing on your patient to be done on yourself?" Years and experience bring in their train a certain degree of hesitancy (Zurückhaltung). Every

3. Harper's Weekly, April 25, 1903.

year brings out clearer and clearer the shortcomings of our art.

This matter of operating without due study has recently been made the subject of able addresses by Estes and Coe, as well as by Bennett and others. Coe[4] says: "All of us who have served an apprenticeship in gynecologic clinics have arrived at the conclusion that there is a wide difference between the word 'cured' on a patient's discharge slip and her condition a few months or years after operation."

Bennett,[5] in an address, the charm of which is most delightful, given by him before the London Medical Society, says:

The working life of every surgeon may, I venture to think, be divided into three principal stages. In the first, or developmental, stage, the fascination and apparent simplicity of the operative treatment, presenting, as it seems to do, the prospect of a ready road to immediate and conclusive results, are apt to obscure wider and often more important issues in the way that a penny piece, if placed sufficiently near the eye, will obscure the sun. Toward the end of this stage those whose sense of infallibility is not too strong, begin, I fancy, to realize the truth of what may be expressed by an ancient classical adage, slightly modified: *Nemo repente fit chirurgus.* At about this time in the evolution of the surgeon the tendeney shown rather later to operate less freely and apparently with less energy sometimes leads to the conclusion by those who are yet in the early stage of their development that this is due either to indifference or to an inability to keep abreast of the times, the real factor in the matter, which is the dictate of increasing experience, being overlooked.

In the second stage, the gathering of experience and the lessons of some failures and disappointments lead in the majority of men to maturer judgment and a better understanding of the proper relation of things. It is toward the end of this period that the greater number of surgeons begin to be rather less aggressive in the direction of the purely operative treatment and show indications of approaching it with more consideration than hitherto, an attitude which is the result, as I have already said, of increased experience and a more accurate knowledge of the real value of operations as such. It is at this time that a sober retrospect on the part of those whose sense of proportion is sound will, I am confident, recall to mind more instances than one in which an operation performed in all good faith had better, for the good of the patient and perhaps for the reputation of the operator, have been left undone.

With the third stage comes the inclination for the surgeon to confine himself to certain operations with which he feels himself most at home and thus to some extent his practice becomes eclectic. The increase of experience and a maturer judgment at the same time becoming more prominent characteristics, he is enabled to exert a far-reaching influence of the greatest value.

There is a fourth stage, of course, in the surgeon's life, when, happy in the contemplation of an honorable career well spent, although operations may be things of the past, there remains a never-failing judgment, the outcome of a vast experience, the importance of which it is impossible to overestimate, although I fear at times it is not altogether appreciated at its full worth by some of us.

In the presence of the attractiveness of the operative side of surgery, and perhaps to some extent under its influence, I think that many of us who are past the heyday of youth fail to pay sufficient attention to the non-operative cases. This is reflected in the paucity of such in our surgical wards. Certainly there has been a great change in this respect during the past twenty years, and it seems to me that in this way we are debarred from passing to our successors a great deal of that clinical knowledge which so aids us in formulating our surgical principles. True, the operative management has given a shorter road to recovery in such a constantly widening range of cases that it sometimes seems as though it were indeed our Alpha and Omega. Yet it is not. And it is not so much the operative skill and technic which leads to success as the judgment which determines what shall be done and the time of its performance. Again I quote from Bennett:

A comprehensive view of the matter generally as it stands justifies, I believe, a forecast that ere many decades have passed away the operating surgeon as we know him will be a far less imposing figure in the medical landscape than he now is, and that operations, excepting in the restricted degree which I have mentioned, may be looked upon with as little favor as suppuration is regarded by us now. It has been said that the basis of surgery is handicraft, and this, in a sense, is true; but surely it is a truth only half told, for apart from the issues to which I have referred there is lying behind a far greater thing, the knowledge of when to apply that craftsmanship of which everyone who now aspires to the practice of surgery should make himself a master. Nothing that has happened in the improvements connected with the practice of our art justifies, so far as I know, the modification by one iota of the edict of the great surgeon who, before advancing science had robbed operations of most of their horror, said, "The all-important thing is not the skill with which you use the knife but the judgment with which you discern whether its employment is necessary or not." In other words, those who attach too much importance to mere mechanical dexterity not only fail to reach the high-water mark of greatness, but entirely lose sight of the grand possibilities of their calling.

By this I do not in any way belittle the operative side, but I would emphasize the profound conviction that our work is attended with responsibility to a degree unequaled in any other calling, and that before proceeding to a given operation we must be able to say with Billroth that we would ourselves undergo the proposed treatment were we in the place of the patient. More than twenty years ago Gross said that surgery had reached its highest possible development, and that there was nothing beyond. To-day we realize that our art is changing constantly, and that the next decades may well bring changes as startling as the last.

Prophylactic surgery may be the surgery of the future; serum therapy and other therapy may narrow the operative field; but whatever course surgery may take its direction will be one of advance, for it is traditional with and inherent in our art and our workers to press steadily forward to the end that the lives of men may be made longer and happier. That is our heritage.

Temperamentally, the surgeon should be a man endowed with the finer sensibilities, courageous and hopeful. He is the one to whom is entrusted the real responsibility in the event alike of success or failure. To him is given the power to encourage all about him. Patients, pupils, nurses, all look to him for a hopeful word. To fulfill his highest mission the surgeon should be not only a man of the highest character, but of the most delicate feeling. His occupation is a profession and not a trade. The difference between the two has been defined in this way: In a profession service is first and wage second. The professional man has but one quality of service to render, and that is his best. That, too, is the surgeon's heritage, and he is to keep it free from commercialization and transmit it untarnished to his successors.

And so as we review the forecast "From Priest to Physician," we see that our mission has something of that of the priest, and that while our art is to attract to itself these, the ablest young men of the college

4. Medical Record, March 12, 1904.
5. Lancet (London), May 23, 1903.

classes, they in turn will bring to the work that devotion which has in all ages gone out from the strongest and best minds. So will the lamp of surgical knowledge be kept burning, and burn constantly with a purer, brighter, steadier flame.

Original Articles.

WILL THE LONG-CONTINUED ADMINISTRATION OF DIGITALIS INDUCE CARDIAC HYPERTROPHY? *

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Various authors make the statement that digitalis will cause cardiac hypertrophy, but I am not aware that experiments have been made which prove it. The assertion has its origin, no doubt, in the well-recognized clinical fact that cardiac as well as general improvement often follows the administration of digitalis in valvular heart disease. Notably is this true in mitral lesions with beginning dilatation. A case in point is here reported briefly:

A man, aged 34, suffered from repeated attacks of rheumatism followed in time by typical signs of mitral disease. He was entirely incapacitated for manual labor. Digitalis was prescribed in ordinary doses with the result that his edema and dyspnea were relieved and he was again able to take his place as a breadwinner. The patient observed that when the digitalis was stopped his symptoms tended to recur. Finding the remedy so helpful, he purchased tincture of digitalis on his own responsibility and continued to take it in gradually increasing doses over a period of three years, during the last year as much as forty-five minims four times daily. At no time did he suffer from cumulative symptoms and was able most of the time to perform the ordinary duties of a mechanic. Rapid failure of compensation came at last, however, with extreme dyspnea, anasarca and death.

Autopsy.—The necropsy revealed a beautiful specimen of *cor bovinum:* Weight in fresh state, 1,544 gm.; length, 24 cm.; breadth, 17 cm.; thickness, 12 cm. Greatest thickness of chamber walls: Right auricle, 2 mm.; left auricle, 1 cm.; right ventricle, 1.1 cm.; left ventricle, 3 cm. Inspection of the valves and orifices shows marked incompetence of the mitral leaflets. From this clinical history and the specimen the natural inference is warranted that the digitalis may have been in part responsible for this enormous hypertrophy. This, however, is not proven, for the incompetent mitral valves may have been the sole cause of the compensatory hypertrophy. Thus it is in any case of heart lesion in which the use of digitalis has aided the establishment of compensation. We can only assume that the agent, by increasing the output of blood, has improved cardiac nutrition and so led to hypertrophy. This case and the specimen suggested the following experiment, with the object of endeavoring to prove that digitalis will produce hypertrophy of the normal heart.

Twenty healthy Belgian hares, all females, were selected and divided into two groups of ten each, control and experimental, balancing the groups as nearly as possible in both total and individual weights. They were given the same food and environment. Two rabbits in each of the groups died, leaving eight experimental and eight control animals, on which the data of this report are based. The preparation of digitalis employed had been tested physiologically on frogs. The experiment extended over a period of 120 days, and the observations of interest noted are as follows:

Tolerance.—Great tolerance for the remedy was shown. Beginning with eight minims of the tincture of digitalis in twenty-four hours, the dose was gradually increased until, at the end of three months, each animal was receiving ninety drops daily. From such large dosage there became apparent loss of appetite and beginning failure of nutrition. The daily dose was then diminished to fifty minims. After three or four days they again began to eat well.

Change in Disposition.—The development of a vicious and carniverous tendency among the animals which took the digitalis was an interesting feature of the experiment. The animals were at first very docile. As the dosage of the remedy increased they began fighting and biting each other in a most ferocious manner. Numerous wounds were produced which required surgical attention. The two experimental animals which died were found in the morning mutilated and in part devoured. The control animals remained docile.

General Nutritional Changes in the Animals.—The animals were weighed both before and after the experiment. Weight of experimental group before beginning digitalis, 26.155 kilo.; weight at end of experiment, 25.664 kilo.; loss in weight of experimental animals, .491 kilo.; weight of control group at beginning of experiment, 24.704 kilo; weight of control group at end of experiment, 25.184 kilo.; gain in weight of control animals, .480 kilo. It will be noted that the experimental animals lost about a half a kilo. in weight while the control animals gained an equal amount. Other evidences of impaired nutrition in the experimental group were loss of appetite at times, lack of playfulness and diminished luster of the hair.

Cardiac Changes.—Comparative microscopic study of the musculature of the hearts of the two groups failed to reveal any distinctive differences. The organs were removed, the vessels clipped near the base, all blood expelled from the chambers and the total weight of each group taken. Total weight of experimental hearts, 77.76 gm.; total weight of control hearts, 74.13 gm.; difference in favor of experimental group, 3.63 gm.

CONCLUSIONS.

This difference in heart weight, when taken in conjunction with the general loss of weight of the experimental group and the gain of the control animals, warrants the conclusion that the digitalis did produce a slight degree of cardiac hypertrophy. But that the remedy is responsible for hypertrophy to any great degree in valvular heart disease seems doubtful.

DISCUSSION.

DR. D. H. BERGEY, Philadelphia—What particular evidences of malnutrition were manifested in these animals? Did the digitalis produce any distinctive alterations in any of the tissues, as shown by postmortem examination?

DR. WINFIELD S. HALL, Chicago—Dr. Wynn's paper gives us, as research men, a very beautiful example of a fundamental principle in a research—one that I make a point of instilling into my men and driving home—a principle which I am afraid, from the study of papers purporting to be research, is sometimes lost sight of. The principle is this: Where a variation in any function or structure arises from two or more variable factors, one must reduce his variables to one variable factor or he can not draw a conclusion. Dr. Wynn made the point that though it had been frequently stated that the administration of digitalis over a considerable period would lead to hypertrophy of the heart, we must not lose sight of the fact that the pathologic condition of the heart would naturally lead to hypertrophy also if left without the administration of digitalis. In order to settle that, he took an animal that did not have this pathologic condition and administered digitalis, with the results which he reported. The point I wish to bring out is concerning the necessity, in these research problems, of reducing them to the simplest conditions so that they will present only one variable factor.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

DR. FRANK B. WYNN, Indianapolis—Answering Dr. Bergey's question, so far as organic changes are concerned, there were none observable. I mentioned in the paper symptomatic evidences of failure in nutrition in the animals, loss of appetite and of playfulness. The two groups were near at hand and could be compared with each other. The experimental rabbits were not frolicking about as the other animals were, and most of all, perhaps, the physical evidence of failure of nutrition was most clearly manifest in the loss of luster of the hair.

PERNICIOUS ANEMIA AND ITS RELATION TO GASTRIC DIGESTION, BASED ON TWENTY-FIVE CASES.*

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The group of twenty-five cases reported in this paper represents about one-half of the private and hospital cases which have come under my observation during the past ten years. Unfortunately, the records of a number of cases are so faulty as to render them unavailable for careful analysis. In presenting these reports the aim is made to consider the disease from each of three standpoints: First, the general condition of the patient; second, the gastric digestion; third, the blood.

The stomach examinations, so far as relates to the chemistry, were made mostly by Dr. Allen Jones; the blood examinations by Dr. A. E. Woehnert. Nearly all of these cases were referred to me for diagnosis, and in many it became impossible to follow systematically the subsequent state of the digestion. As will be seen in the history of individual cases, the patient almost uniformly complained of dyspnea, weakness and digestive disturbance, sometimes relating to the stomach, at other times to the intestines. All of them presented the picture of marked pallor, associated with a more or less marked lemon-colored tint of the skin, differing from jaundice, and yet in some instances strongly suggesting it. In most the loss of weight was not great. In almost all cases the tongue was strikingly pale, usually showing a loss of epithelium, and therefore not coated, or but slightly so. A proportion of the cases suffered from marked gastric distress; others complained of no stomach trouble. In some there was anorexia, but in most there was a fairly good appetite, and in a few instances the appetite was increased. In all the gastric digestion was greatly depressed, and in the majority there was complete achylia gastrica, no appreciable digestion taking place in the stomach. A number of times I have seen moderate improvement in digestion at intervals corresponding with improvement in the state of the blood, but this does not apply to the secretion of gastric juice. In those cases of pernicious anemia in which the secretion of hydrochloric acid has disappeared, I have not seen it return, even when gastric motility has become apparently normal. The cases in which complete achylia gastrica was present did not differ, so far as the stomach examinations are concerned, from the ordinary type of achylia gastrica. From a careful history of these cases I am convinced that the achylia gastrica is not an etiologic factor in the development of pernicious anemia.

My reasons for reaching this view are: First, when in a given case the blood shows marked improvement for several weeks together, there usually appears evidences of improvement in the general nutrition, but, so far as I have observed, not in the gastric digestion. Possibly, if all cases had been studied with this in view for a prolonged period, some instances of improved gastric secretion, corresponding with betterment in the blood, might have been noted. However, in a few cases in which the condition of the stomach has been ascertained at regular intervals during several years, no change for the better was found, although at times the blood has made remarkable improvement.

Second, in a large number of cases of achylia gastrica which I have studied, many of which have been under observation during periods of several years, there has not been found in a single instance a change in the blood that was suggestive of pernicious anemia. In several cases of achylia gastrica, associated with diarrhea, there sometimes develops a severe secondary anemia, but the characteristics of pernicious anemia have been found wanting. In this respect my experience agrees with that of Riegel, Einhorn, and most others who have carefully studied the two subjects.

Third, in a few cases where the anemia was marked, there was not found a complete achylia gastrica, but merely hypochlorhydria. Since Austin Flint's original observation that there is an absence of gastric secretion in pernicious anemia, this relation has been constantly recognized; but it is apparent that the failure of gastric juice is the result of depression in the blood. It is not a cause of pernicious anemia, but, on the other hand, in these cases pernicious anemia is the cause of achylia gastrica. In most cases of achylia gastrica the motor activity of the stomach is exaggerated, as a result of which the stomach usually empties itself more quickly than normal. This rule holds true in those cases which result from pernicious anemia, but, according to my observation, not so often as in other cases of achylia gastrica. This is probably true for the reason that with the failure in the blood there comes about a failure in the strength of the muscular coat of the stomach, and in some cases there is the development of a real gastric atony and sometimes gastritis. Perhaps for this reason some patients complain of food stagnation and anorexia—conditions which are rarely observed in achylia gastrica from other causes. In some of the cases reported in this paper diarrhea was an occasional and troublesome symptom. It appears to me that it occurs less often in this group than in the same number of cases of achylia gastrica occurring without pernicious anemia. When present it is usually associated with excessive gastric motility and the disturbance of intestinal peristalsis by the untimely emptying of the stomach onward; also, the exaggerated motor impulse which empties the stomach is apparently carried over to the intestine, which influences result in the appearance of frequent liquid stools showing undigested food substances.

I am somewhat surprised, in reviewing these cases, to find so little evidence of marked cardiac disease. In those engaged in heavy manual work the heart was usually slightly dilated, and sometimes there was a relative mitral insufficiency, hemic bruits were often heard, and sometimes bruits de Diable, but the latter I have not found so commonly present as in chlorosis. There has been found no constant change in the liver, spleen or lymph glands. Often the liver has been found slightly enlarged, sometimes markedly so; the spleen sometimes increased in bulk, but rarely very large. No other striking features have been found present with sufficient frequency to warrant notice, with the exception of symptoms of spinal cord disease. Since Billings called atten-

*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer.

tion to its frequency I have found it in the majority of cases. The personal history of the patient is remarkable in the fact of the absence of previous severe illness. Most of the patients insist that they had never before been seriously ill. The family histories were negative, so far as relate to pernicious anemia, and I do not know of an instance in which it has occurred in the second generation. The results of study of the urine have not been very notable in these cases.

Following this is a brief statement of each of the reported cases. A report of the study of the stomach examinations is inserted, and, as will be seen, they represent practically what is found in ordinary cases of gastric anacidity. I very much regret that the records of some of the stomach examinations have been lost, and the paper is more incomplete in this connection than I anticipated; nevertheless, the uniformity of the results is so evident that I feel the same conclusion may be drawn from these reports that would follow a much longer series.

Most of the patients had an incorrect idea as to the nature of their disease, some complaining of the liver, others of cancer of the stomach, heart disease, locomotor ataxia, and so on.

CASE 1.—G. K., German, aged 47, carpenter, married, family history negative; personal history negative until the beginning of the present illness, two years ago. Patient is weak, short of breath, has tinnitus aurium, numbness of the extremities, slow reflexes, gaseous pulse. First sound of the heart at apex is weak, with slight systolic bruit; aortic sound exaggerated; arteries sclerosed moderately; capillary circulation poor; skin pale, lemon tint; appetite fair, afraid to eat because of subsequent distress; tongue pale, shiny and tender; spleen not palpable. Treatment, Donovan's solution, etc. Improvement wonderful on two occasions. Died after an illness of four years.

Blood.—Red cells, 980,000; hemoglobin, 25 per cent.; megaloblasts, megalocytes, microcytes, poikilocytes marked; hemoglobin index high; leucocytes, 3,300.

CASE 2.—S. J. M., American, aged 45, physician. Family history: Mother probably died of tuberculosis; in other respects negative. Patient always well until present illness. Had great mental strain for a year, followed by weakness, dyspnea, and later by digestive disturbances. Pulse frequent, gaseous; heart normal in size, systolic bruit at apex, bruits de Diable. Appetite fair, tongue pale, bowels loose, often diarrhea; skin lemon tint and pale; occasionally slight cough; lungs normal; spleen not palpable. Three periods of marked improvement. Died two years and a half after beginning of illness.

Blood.—Red cells, 1,130,600; hemoglobin, 25 per cent.; macrocytes, microcytes and poikilocytes were numerous; megaloblasts and normoblasts; leucocytes, 2,933; polymorphonuclear cells, 84 per cent.

CASE 3.—A. S., German, aged 40, engineer. Good family history. The present is the patient's first illness; began a year ago, gradually losing strength; is now very weak, short of breath; digestion disturbed; pulse gaseous, weak; heart negative; anorexia; tongue pale; bowels constipated; skin very pale, lemon tint; liver and spleen negative; one period of marked improvement. Died after two years' illness.

Blood.—Red cells, 1,366,000; hemoglobin, 35 per cent.; macrocytes in great number; microcytes, poikilocytes marked; leucocytes, 2,400; polymorphonuclear cells, 54 per cent.

CASE 4.—J. M., American, farmer, aged 70. Family history good. Present illness began eight months ago. He was pale, weak, had dyspnea; pulse weak, somewhat gaseous; heart sounds weak, arteries sclerosed; appetite good; tongue pink; digestion bad; bowels loose; skin pale, sallow, sodden; liver and spleen negative, reflexes active. Made no improvement. Died a year after the beginning of the illness.

Blood.—Red cells, 1,248,000; hemoglobin, 30 per cent.; large number of microcytes, poikilocytes and megalocytes, no normoblasts; an occasional megaloblast; leucocytes, 3,800; polymorphonuclear cells, 68 per cent.

CASE 5.—Mrs. W. D. R., American, aged 45, patient of Dr. Benninghoff of Bradford, Pa., suffers from weakness, anorexia, dyspnea. A remarkable case, which I have studied for five years, and which is still under observation; has shown great oscillations in the blood counts—from a few over one million at the lowest to over four millions at the best, the hemoglobin ranging from 26 per cent. to 92 per cent. There have been four distinct relapses, followed by striking improvement in general health, still at no time has there been any evidence of gastric juice. The gastric motility has varied markedly with the condition of the blood. When the anemia is at its worst the stomach is found to empty itself almost immediately after eating, but when the blood is better the stomach retains the food for a longer period, and with this return of a more natural gastric motility the general nutrition improves. What relations exist between these facts I am unable to say, but it seems probable that the intestine is better prepared to carry on the digestion when the stomach discharges itself more slowly and, therefore, when the intestinal peristalsis, especially in the upper part of the tract, is less disturbed. While I hoped for a return of the combined chlorids during these periods of improvement in the patient, I have been so far disappointed. Starch digestion is moderately well performed when the patient is doing well, but even this is greatly diminished when the blood count is very low.

Blood.—Red cells, 1,021,000; large number of megalocytes, few megaloblasts and normoblasts; hemoglobin, 26 per cent.; leucocytes, 3,200; polymorphonuclear neutrophiles, 60 per cent.

CASE 6.—A. M., aged 38, laborer. Mother died at 45 of unknown trouble, one brother from hemoptysis, one sister from hemoptysis, one of Bright's disease, and the third from sudden failure of the heart. The patient's previous history has been good. Complained that for some months he had been weak, and of late had shortness of breath; distress after eating, although he had a good appetite; lost somewhat in flesh, exact amount unknown. His pulse was weak and gaseous; arteries very compressible; heart rather enlarged; apex diffuse; hemic bruit heard over precordium; also bruits de Diable; râles at bases of both lungs; tongue pale, epithelium largely absent; bowels constipated; liver large, one inch below ribs; spleen and lymph glands normal. Patient's skin was dry, scaly, with bran-like exfoliations and characteristic lemon-colored tint. A letter from the patient March 28, 1903, reports that he had been at work since May last without the loss of a day and appears to be in fair health.

Blood.—Red cells, 1,199,000; hemoglobin, 23 per cent.; many microcytes, poikilocytes and megalocytes; normoblasts and megaloblasts. Leucocytes, 8,000; 50 per cent. polymorphonuclear neutrophiles.

CASE 7.—S. F., patient of Dr. Roos, Wellsville, N. Y., aged 60, merchant; negative family history; suffered from typhoid fever 25 years ago, subsequently well until 12 years ago, when he had a decline and gave up business. He improved again and was fairly well. Five years ago had what was apparently an epileptic seizure; since then has had several such attacks. Two months ago began to suffer greatly with his stomach, nausea, distress especially after eating, occasionally followed by vomiting. He now complains of great weakness; has a lemon tinted skin, suffers from nausea; the pulse is very weak; arteries not deeply sclerosed; heart dilated, with musical systolic bruit at apex; tongue pale; bowels constipated; liver large palpable below ribs; spleen and lymph glands negative. Former weight 150, now 138 pounds. A letter, March, 1903, reports that the patient was still living and in fair health.

Blood.—Red cells, 1,058,000; hemoglobin, 45 per cent.; megalocytes, microcytes, normoblasts; leucocytes, 8,400; polymorphonuclear neutrophiles, 66 per cent.

CASE 8.—Captain S., patient of Dr. C. W. Howe, lumber dealer, aged 70; served three years in Civil War; has suffered from rheumatic arthritis; for five years has had much disturbance with stomach, much worse for past two years; for a

year has vomited at times excessively; none for past three months; suffered from exaggerated salivation; suffers most from eating solid food; has weakness and dyspnea; is pale; has arteriosclerosis; pulse of fair tension; heart slightly large; aortic second sound exaggerated; tongue coated and flabby; bowels constipated; liver and spleen negative. He died in 1902, two and a half years after beginning of illness.

Blood.—Red cells, 1,100,000; hemoglobin, 40 per cent.; megalocytes, numerous; megaloblasts, 1; leucocytes, 4,463; polymorphonuclear neutrophiles, 46 per cent.

CASE 9.—C. J. M., aged 33, farmer; family history negative; patient had no previous illness; complained of weakness, dyspnea, faintness; pulse weak, gaseous; has hemic bruit over the heart; arteries very compressible; tongue is denuded of epithelium, pale; appetite capricious; bowels irregular with occasional diarrhea; skin lemon tint; liver and spleen negative. Dr. Shugert, of Tidioute, Pa., his physician, writes me that three months after the patient's visit to me he had so far improved as to resume his work, and that he has continued, with slight interruptions, to work ever since that time, and seems to be in very good condition. His work is out-of-doors, quite laborious, and he walks several miles a day. His color, June, 1904, is good, and the man is at work.

Blood.—Red cells, 2,118,400; hemoglobin, 51 per cent. Large number of microcytes, poikilocytes and megalocytes; one megaloblast; leucocytes, 12,334; polymorphonuclear neutrophiles, 55 per cent.

CASE 10.—H. B., English, aged 46, plumber, married; family history good; never sick until present trouble; complained of his stomach first one year ago; had chills with fever several days in succession eight months later. Present condition, weak, cachectic, losing flesh, dyspnea; pulse gaseous; heart of normal size; pulmonary second sound exaggerated; appetite poor; tongue pale; bowels irregular (constipation or diarrhea); skin pale, sallow, with lemon tint; spleen just palpable; mentality good; sleep undisturbed. Had several periods of improvement, some of them quite remarkable. Treatment, Donovan's solution, etc.; died three years after beginning of illness.

Blood.—Red cells, 1,250,000; hemoglobin, 40 per cent.; gigantoblasts, normoblasts, microcytes; poikilocytes marked; leucocytes, 4,000; polymorphonuclear neutrophiles, 70 per cent.

CASE 11.—B. P. B., aged 42, caterer, married; claims to have been well until four weeks ago, then began to suffer from progressive weakness and shortness of breath on exertion. No emaciation; marked lemon-tinted skin; tongue pale; appetite poor; bowels loose; pulse gaseous, frequent; apex of heart at the nipple line; systolic bruit at apex and heard in axilla; liver and spleen normal.

Blood.—Red cells, 949,333; hemoglobin, 35 per cent.; megalocytes, poikilocytes marked, normoblasts and megaloblasts; leucocytes, 3,240; polymorphonuclear neutrophiles, 63 per cent.

CASE 12.—J. K., telegraph operator, aged 33, single; present illness began within six months with weakness and dyspnea; marked pallor, with lemon-colored tint to skin; tongue pale; appetite fair; bowels very loose, with yeasty, dark colored stools; patient appears well nourished; pulse soft, about 100; temperature, 101 degrees; apex of heart diffused; systolic bruit heard over the base of the heart, with a loud venous hum of the vessels of the neck; liver a trifle full; spleen normal; reflexes somewhat exaggerated.

Blood.—Red cells, 1,127,000; hemoglobin, 31 per cent; macrocytes, microcytes and poikilocytes marked; normoblasts present; leucocytes, 3,900; polymorphonuclear neutrophiles, 75 per cent.

CASE 13.—J. D., aged 40, laborer; duration of illness not known; complained of extreme weakness and digestive disturbance; some dyspnea; has marked lemon tint to skin.

Blood.—Red cells, 1,352,000; hemoglobin, 25 per cent; poikilocytes, macrocytes, megaloblasts, numerous; leucocytes, 4,000; polymorphonuclear neutrophiles, not given.

CASE 14.—S. O., Freedom, N. Y., aged 46, excellent family history; patient had pneumonia when he was 21 years old, otherwise perfectly well until a year ago, when his health gradually declined; he complained of weakness, shortness of breath, disturbance of the stomach; pain above the pubes, relieved by the action of the bowels. His pulse was extremely weak, arteries thickened, the heart slightly enlarged, systolic bruit at the apex, the pulmonary second sound exaggerated. His appetite was good, at times craving; tongue smooth, denuded of epithelium, pale; bowels very constipated; skin pale, almost lemon tint; liver large, extending 1½ inches below the ribs; spleen and lymph glands negative; patient weighed 155 pounds, now 137. Patient was given the bichlorid of mercury for two months and made marked improvement; he had complete achylia gastrica. Two months later he was given potassium iodid; he suffered greatly from proctitis. After six months patient was not so well. During the following year he again made improvement under the influence of bichlorid of mercury, nux vomica and iron, and on the 9th of January, 1895, he was discharged as cured. During the following summer, 1895, he returned with all his former symptoms. This time the blood showed the characteristics of pernicious anemia. An incomplete examination made two years before showed 35 per cent. hemoglobin, the red corpuscles very large and deformed. This case possesses special interest for the reason that after passing through my hands he was treated by another physician, who claimed to have found the ova of ankylostoma, and furthermore he reported that the patient made great improvement under treatment by thymol. The stools were examined by Dr. Woehnert, who was unable to find the ova of ankylostoma, and the blood showed no eosinophilia. The case may be put down as not being one of ankylostomiasis. The patient died in 1900, eight years after the beginning of the attack, after at least three periods of distinct improvement. Not under my observation for the past three years.

Blood.—Red cells, 1,700,000; hemoglobin, 33 1/3 per cent.; megaloblasts, normoblasts, macrocytes, microcytes, poikilocytes; some leucocytosis; polymorphonuclear neutrophiles, 38 per cent.

CASE 15.—Mrs. I. J. S., patient of Dr. C. A. Ellis, Sherman, N. Y., aged 34. Patient had been ill for two and a half years, sometimes showing betterment, followed by periods of depression. Her chief symptoms were weakness and dyspnea. The pulse was weak and frequent; heart not indicative; blood vessels normal; liver and spleen negative; tongue almost colorless; appetite poor; bowels irregular. She died in February, five months after being discharged from the hospital after an illness of about three years.

Blood.—Red cells, 1,118,000; hemoglobin, 25 per cent.; microcytes, macrocytes, poikilocytes present; leucocytes, 6,000; polymorphonuclear neutrophiles, 75 per cent.

CASE 16.—B. W., German, aged 42, indoors, machinist; family history negative; personal history good; worked in an icehouse for 15 years; lost slightly in weight; present illness began two months ago with weakness, dyspnea on exercise, biliousness and slight edema of the ankles. There was a marked lemon-colored tint to the skin; tongue very smooth, with absence of papillæ; muscles flabby; pulse weak, small; lungs normal; heart of normal size, systolic bruit at apex; right heart slightly dilated, slight bruit de Diable; liver considerably enlarged; spleen palpable.

Blood.—Red cells, 1,560,000; hemoglobin, 30 per cent.; a few normoblasts; leucocytes, 2,600.

CASE 17.—J. L., aged 49, laborer; family history negative; patient has handled nitroglycerin for 25 years; no illness save that two years ago he froze his hands and feet while shoveling snow; has not been well since; complains of dyspnea on exercise; great weakness; numbness of extremities; lost 30 pounds in weight; has poor appetite; no cough or hemorrhage; heart of normal size, apical systolic bruit, no bruit de Diable; liver slightly enlarged, two inches below ribs; spleen not palpable; skin sallow and pigmented; tongue smooth and pale; bowels constipated.

Blood.—Red cells, 1,150,000; hemoglobin, 50 per cent.

CASE 18.—F. D., aged 47, farmer; patient of Dr. Tompkins of Randolph, N. Y. Father died of diabetes; in other respects family history is good. Patient had for years experienced severe bilious attacks with vomiting and sallowness, accompanied by chills and fever. Four years ago, after severe influenza, he had one of these attacks with jaundice, accompanied by general anasarca, at which time the scrotum was drained. He was very weak, but finally made great improvement and went to work. A year ago he had a second severe illness, with great weakness, lemon-colored tint and bleeding from hemorrhoids; marked anasarca lasting two or three months. This again disappeared and the man was able to return to work. During each of these attacks the liver was large. The present attack occurred in September last; became yellow, had chills and fever, great weakness; became nervous with dyspnea on exercise; bleeding from the hemorrhoids and moderate anasarca. Pulse was weak and gaseous; temperature from 98 to 102; respirations, 24 to 26. Heart was moderately dilated, systolic bruit at the apex and over pulmonary areas. Lungs were normal; arteries slightly sclerosed; had paresthesia in both legs, some weakness in gait; appetite was poor, with distress after eating; tongue was smooth and shiny; liver was very large, as also was the spleen; bowels were loose; absence of ova of parasites.

Blood.—Red cells, 640,000; hemoglobin, 30 per cent.; a few megaloblasts and normoblasts, with many large and small cells; leucocytes, 8,200. Patient made no improvement and died April 1.

CASE 19.—Mrs. C. H., aged 39; father died of cancer of the stomach; in other respects family history good; personal history good save that three months ago suddenly lost strength and color; had dyspnea on exercise, dizziness, bleeding from the nose; tinnitus; moderate anasarca, and some tremor and weakness in her extremities; pulse gaseous; temperature slightly raised; heart slightly enlarged; systolic apical bruit; bruit de Diable; blood vessels good; râles at base of both lungs; slight cough; mucous expectoration; stomach irritable; vomiting in the morning, and distress after eating; tongue was pale; had had diarrhea for two months; skin distinct lemon tint; some edema; regular but pale menstruation. Patient had steadily failed since first attack, with no improvement; now in critical condition.

Blood.—Red cells, 1,735,000; hemoglobin not taken; many normoblasts, megaloblasts. There were 5,000 leucocytes and 70 per cent. of polymorphonuclear cells.

CASE 20.—C. J. McN., aged 46, liquor dealer; family history negative; personal history good until the beginning of the present illness last summer, at which time he began to lose strength; became sallow; suffered from shortness of breath on exercise; had vertigo and diarrhea. His pulse was very soft; heart of normal size, with apical systolic bruit and systolic bruit at the aortic orifice and bruit de Diable; blood vessels were in good condition; lungs sound; appetite fair; moderate complaint of stomach; skin has the characteristic lemon tint.

Blood.—Red cells, 1,363,000; hemoglobin, 38 per cent.; macrocytes, microcytes, poikilocytes numerous; no nucleated cells; there were 8,000 leucocytes, of which 62 per cent. were of the polymorphous form. After the first month considerable improvement was shown. The patient is now undergoing a period of improvement.

CASE 21.—P. J. K., aged 35, cabinet-maker; family history negative; personal history, had been well previous to present illness, which began about 18 months ago with the usual symptoms of weakness, dyspnea on exercise, indigestion, occasional vomiting with constipation. The heart was of normal size; weak systolic apical bruit, but no bruit de Diable. The stomach contents showed complete achylia gastrica. He died in the spring of 1903 after an illness of little over two years, with one period of improvement.

Blood.—Red cells, 950,000; hemoglobin, 35 per cent.; many megalocytes and poikilocytes; there were four normoblasts and 10 macroblasts in one field. There were 2,500 leucocytes, of which only 15 per cent. belonged to the polymorphonuclear type.

CASE 22.—W. O'D., aged 48, lumberman; family history negative; personal history, had been well previous until two years ago, when he began to suffer from weakness, with vomiting, dizziness, dyspnea on exercise, edema of the extremities and numbness of the legs and feet. Had a marked lemon-colored tint; pale tongue; slightly enlarged liver; bowels loose. His heart was slightly dilated, pulse weak, but not gaseous. He had had one period of improvement. The urine showed a few hyaline casts, a trace of albumin; otherwise negative; stomach contents showed complete achylia gastrica.

Blood.—Red cells, 755,300; hemoglobin, 25 per cent.; there were many macrocytes, microcytes, normoblasts and megaloblasts; leucocytes, 5,200; the white cells showed 73 per cent. of the polymorphonuclear form.

CASE 23.—Mrs. T. H. R., aged 41, farmer's wife; patient of Dr. Rich, Kennedy, N. Y. Family history good; personal history good; never been sick until present illness. Trouble began one year ago, suffering from weakness, dyspnea on exercise, some dizziness, but especially from paresthesia and some anesthesia of the extremities; some difficulty in walking. Appetite was good; pulse very weak, not gaseous. Heart was moderately dilated, no bruit; had had nose bleed once; little complaint of the stomach; had complete achylia gastrica; food present unchanged three hours after meal; tongue pale, but not denuded; liver large, two inches below ribs; bowels frequently loose; skin pale, but absence of lemon tint; urine scant, urea low. No period of improvement.

Blood.—Red cells, 1,964,000; hemoglobin, 40 per cent.; macrocytes, microcytes, poikilocytes abundant, with a few megaloblasts; lymphocytes showed 57 per cent. of the polymorphous form.

CASE 24.—B. J. H., aged 39, male, railroad engineer; family history negative; personal history, health uniformly good until a year ago, when he began to grow weak and suffer from his stomach. These symptoms have been progressive until the present time. Former weight, 225 pounds, now 184. He suffers from dyspnea on exercise, weakness, dizziness; the tongue is denuded and dry; appetite poor, gastric distress, occasional vomiting and constipation. He came supposing that he suffered from some disease of the stomach. His heart is dilated, relative mitral insufficiency and moderate bruit de Diable. Stomach shows achylia gastrica. Urine is negative. History of past luetic infection 20 years before. On Donovan's solution he made improvement during the first six months, but his trouble became worse and he died April 1, 1904.

SUMMARY.

Of the 24 cases here reported, the youngest was 32, the oldest 70; average, 45 years +; there were 20 males and 4 females; 13 had outdoor occupation and 11 indoor; the longest duration of illness was in one 5 years, the shortest 6 months, and fatal; 12 are known to be dead, 5 living, the others unknown; all had dyspnea on exercise; all suffered from faintness and weakness; 16 had gaseous pulse, 8 did not; 16 had heart slightly enlarged, 8 did not; 16 had systolic apical bruit, in 8 it was absent; 6 had bruit de Diable, in 18 it was absent; 8 had other bruit, 16 had no other; 22 had a distinct lemon-colored tint of the skin, in 2 it was absent; 15 had the tongue strikingly denuded of epithelium, 9 did not; 10 had good appetite, 7 capricious, and 7 anorexia; 18 complained of symptoms of stomach trouble, 6 did not; 10 had constipation, 8 diarrhea, and 6 irregularity of the bowels; in 11 the liver was enlarged, in 13 it was not enlarged, small in none; 1 had four periods of improvement, 3 two periods, 8 one period, and 8 no period of improvement. After my attention was called to the subject by Billings' paper, I found signs of spinal cord involvement in 6 out of 9 cases. Nine cases showed slight dilatation of the stomach; in 13 the gastric digestion was absent, in 8 it was very low, in the 3 others it was fairly good. Five showed evidences of gastric catarrh;

in the others it was absent. Six showed no acidity of the gastric contents, 1 (the highest) showed a total acidity of 46, one 26, and the average about 10. Four showed the presence of combined chlorids; in the others it was absent. One showed free hydrochloric acid, .05 per cent., one .06 per cent., and one .022 per cent.; in all the others it was absent. Six showed lactic acid present; in the others it was absent. Four showed other organic acids; the others, none. The acid salts were very low, 18 being the highest, 5 having none whatever; 7 showed biuret reaction; six showed rennet present, in the others it was absent. The digestion of starch was poor in all save two cases.

DISCUSSION.

DR. R. C. CABOT, Boston—Of 150 cases of pernicious anemia seen by me, five-sixths showed the absence of hydrochloric acid and yet digestion went on perfectly well. One is almost inclined to say that hydrochloric acid is a luxury and not a necessity. In cases with poor digestion the trouble seems due rather to motor insufficiency of the stomach, and not to the absence of hydrochloric acid. It has been my experience that there has often been an absence of hydrochloric acid even during periods of improvement. There is also a curious lack of cardiac symptoms in some cases, even when we know that advanced fatty degeneration is present.

DR. MAX EINHORN, New York—While some time ago the opinion prevailed that pernicious anemia was due to atrophy of the stomach, recently this view had to be changed. This point has been brought up by Dr. Stockton and myself. There have been met many cases of pernicious anemia in which the gastric digestion is not impaired. Again, most cases of achylia gastrica do not show a condition of pernicious anemia. Pernicious anemia may be complicated with achylia gastrica and atrophy of the stomach. But the latter condition is not the cause, but rather the result of pernicious anemia.

DR. ALLEN JONES, Buffalo—I studied the gastric contents in these cases that Dr. Stockton has reported and I feel like confirming the view that pernicious anemia is not caused by achylia gastrica so far as we can tell. For a number of years after the idea was exploited that pernicious anemia was due to failure of the secretory functions of the stomach, it was found that achylia gastrica appeared without pernicious anemia more often than with it, and yet I felt like hesitating before stating positively that this condition of the stomach was not the cause of pernicious anemia. It is very gratifying to hear Dr. Stockton and others with larger experience than mine make this statement as a clinical fact. The point I wish particularly to emphasize is that in gastric work achylia gastrica without pernicious anemia is more often encountered than with it.

DR. WILLIAM OSLER, Baltimore—My experience agrees largely with Dr. Stockton's and Dr. Cabot's. It is wonderful to see, in the great majority of cases, when a diagnosis has been made, how rapidly these cases improve. There are certain cases in which from the outset the stomach symptoms so dominate the whole scene as to suggest that the profound and increasing anemia is due to the gastric condition. Such cases, though, are extremely rare. In a case reported some years ago the entire mucous membrane of the stomach was cuticular, similar to that found in the esophageal end of the stomach in a horse. I should like to ask Dr. Stockton if he has made any observations on the condition of the mouth, if oral sepsis had anything to do with it. I do not think it has in the majority of cases. We have had a large number of cases this spring, almost an epidemic of pernicious anemia, but in not one was the oral condition extreme. We are still "at sea" as to the exact pathology of pernicious anemia.

DR. J. N. HALL, Denver—Much has been said regarding the absence of hydrochloric acid. I have, in such cases, seen failure to improve when not administered and yet improvement was striking when hydrochloric acid was given in 25-minim doses. The absence of any excess of eosinophiles should be noted, as it generally indicates that we are dealing with pernicious anemia and not with a secondary anemia due to uncinariasis or other intestinal infection. Little has been said regarding treatment. It has long been thought that arsenic did good because of its antiseptic effect, and those who have laid especial stress on the frequent presence of pyorrhea alveolaris have thought that here the antiseptic effect was especially prominent, yet I have recently seen one patient improve wonderfully, so that he has resumed his practice, under the hypodermic use of one-half grain of cacodylate of sodium daily. He had utterly failed to improve under the long-continued use of Fowler's solution. If the arsenic did any good here it certainly was not through its antiseptic effect in the intestinal canal as when given by mouth. Pyorrhea was present in this case.

DR. GEORGE DOCK, Ann Arbor, Mich.—I agree with the remarks made concerning the condition of the stomach and its relation or lack of relation to the disease. I have had a great deal of experience with hydrochloric acid. I have treated these cases with hydrochloric acid, fresh air and diet. Many of them have done as well as those with Fowler's solution and as others treated without any medicine at all. I have seen many patients with advanced pernicious anemia get well temporarily under fresh air and the same sort of diet as given to tuberculous patients. These patients may take 40, 50 or 60 minims of hydrochloric acid, diluted, after meals. It has been my experience that if they could not take the acid well they did not do well. The effect of the hydrochloric acid does not seem to have to do so much with stomach as with intestinal digestion. The condition of the intestine predominates in nutrition. In all cases the condition of the intestinal digestion should be determined by an examination of the stools.

DR. CHARLES G. STOCKTON—I can not wonder, considering the strange capriciousness shown in this disease, at the conclusion reached by Dr. Cabot that hydrochloric acid is a luxury and not a necessity. However, I believe, perhaps for the first time, that I must take different ground from Dr. Cabot, as I regard hydrochloric acid as more than a luxury, though perhaps not a necessity. The fact brought out by Dr. Einhorn that in pernicious anemia we so often find serious atrophy of the gastric mucosa seems to me to answer the point raised by Dr. Osler, who suggests that in some cases the gastric atony may bear a causal relation to the pernicious anemia. I would like to ask Dr. Osler if he does not think that in view of the serious degenerations of other organs in pernicious anemia, it might easily account for the gastric atrophy, such, for instance, as he described some years ago in a case reported in conjunction with Dr. Henry; that this atrophy is more likely to be the result of the pernicious anemia than the cause of that disease. I am sorry to hear Dr. Osler make the statement, for it leads me to feel that I must be wrong in my view; nevertheless, my belief is strongly to the contrary. It seems to me that we should draw a distinct line between ordinary achylia gastrica with atrophy of the gastric mucosa and those cases of gastric atrophy which appear in the course of pernicious anemia. Attention has been called by Dr. Dock to the fact that these cases improve under hydrochloric acid, and I wish to say that I have universally given that remedy where patients could take it. In some instances improvement has followed, but it is difficult to say what actually does good in this disease. Formerly patients apparently did well under arsenic, and now we wonder why they sometimes do well without it. One patient whom I have had under observation for three years wrote me of his condition a month ago. He is still at work and under no treatment. However, there are cases that improve under hydrochloric acid, and this I can not deny. In some of my cases examinations of the stools have been made with negative results as regard evidences of parasites. I am sorry that more new knowledge has not been added by our consideration of this disease.

What to eat and what to drink will always be decided by national custom and individual preference, so far as the public is concerned, but both may be influenced in the right direction by the guidance of skilled medical opinion.—*Brit. Med. Jour.*

FALLING OF THE HAIR.*

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One of the least acceptable of the accompaniments of civilization is premature baldness. The fact is patent to all that as races advance in the arts and avail themselves of the refinements of civilized life, premature loss of hair is more and more in evidence. It is true that this is no hindrance to an active and useful life, but, nevertheless, it is a source of great annoyance to many who are afflicted.

The whole subject of the growth of hair is so little understood that it has been a lucrative field for the charlatan from time immemorial. Some of the greatest successes among patent medicines are the so-called hair tonics. We, as medical men, know that no single remedy can be used successfully in all cases, but many of us, I imagine, approach a case of alopecia with a vague sense of incompetency. True, we roughly differentiate the oily scalps and the dry—those affected by local diseases and those the result of general conditions—but even the best of us feel that we know none too much about the subject. It seems, therefore, worth our while to consider in what ways modern life is responsible for the increasing loss of hair, and in how far such causes may be removed or guarded against.

The most common cause of premature loss of hair is, without doubt, seborrhea and the resulting eczema. Seborrhea has been demonstrated to be a germ disease, caused by Unna's flask-shaped bacillus. Therefore, it is a communicable disease. When we consider the number of ways in which it may be spread we are appalled and reduced to wonder that the disease is not even more common than it is. Barber shops are probably chiefly at fault. It is only very recently that such places have been brought under the control of state boards of health, and even now they are often conducted in a way which is far from sanitary. In some states barbers are required to cleanse brushes and combs once in twenty-four hours, but while such provision is totally inadequate to prevent the conveyance of diseases from one customer to the next, it is a step in the right direction. The only measure which will effectually prevent transmission of the germs producing seborrhea is a law compelling the barber to provide a sufficient number of brushes so that, no matter how many customers he may have, it will be possible for him to disinfect each brush and comb before it is used a second time.

Barber shops, however, are only one medium for the transmission of this disease. The head-rests of dentists' and physicians' chairs, the hat-pegs at clubs, the backs of railroad seats, and the closer intercourse of members of the family are all possible means of contagion. It is true that this disease may be cured even after it has got well started, but it requires so great attention to detail and persistence in treatment for so long a period that, as a matter of fact, it rarely is cured.

Another common cause of premature alopecia is the practice of literary people, and of those who use artificial lights for other than literary purposes, of overheating the scalp by allowing the heat rays from their lights to be reflected on their scalps, a procedure which results in drying out the oil of the hair and interfering with its nourishment.

In connection with the subject of illumination, it is now a well-known fact that exposure to the *x*-ray will cause lanugo hairs and, if long continued, those of a sturdier growth to fall out. Such hairs, it is true, will be partially replaced by others, but the experience of many has shown that they do not come back as thick as before, and continued exposure may result in a very noticeable thinning of the hair. Now, the writer thinks he has noticed that the light from common incandescent electric-burners produces a thinning of the hair in some such mysterious fashion, entirely apart from its heating effect. For instance, he believes that those employed in stores lighted in this way are more generally bald, or partially so, than those employed in similar stores lighted in other ways.

Hair dyes and bleaches are certainly responsible for no small amount of baldness. It is probable that no one of them may be used for any considerable length of time without resulting in damage to the hair. I think we do not realize how extensively these preparations are used. Many of the so-called hair tonics contain lead salts, and are, therefore, merely dyes for the hair.

The practice of saturating the hair with water frequently is a damaging one. The hair is allowed to become dry by evaporation after this procedure, and is rendered stiff and brittle thereby. On the other hand, many people do not apply water often enough to the scalp. There is no other part of the body which is allowed by cleanly people to remain unwashed for more than a week, and yet there is no part of the body which furnishes so good a lodgment for dust, germs, rancid perspiration and filth of all kinds as the scalp. We are told by some professional hair dressers that the scalp should be brushed clean every so often, but it is inconceivable that it ever could be brushed clean. I suppose that everyone of us is astonished from time to time by the statement of some dainty-looking woman that she rarely washes her hair more than once in a month or two. I believe that the shampoo should be taken often enough to keep the scalp clean. If the patient be a man who travels much on the railroad, or rides in automobiles, or one who works in dusty places, he may have to wash his head every day or two in order to keep it clean; and, on the other hand, if the patient be a woman who rarely goes out of the house and is not exposed to dust, a washing once in two weeks may suffice, but I conceive that a fair average would be once a week.

All that we can expect to accomplish in the way of a shampoo is cleansing, so that I can not see the advantage of any special shampoo. Soap and water, well rinsed off after they have served their purpose of dissolving oil and dirt, are sufficient. True, some soaps are better for this purpose than others. Castile soap for white or gray hair, and tar soap for dark hair are as good as anything that can be used. After the shampoo I think it is important that the hair should be rapidly and thoroughly dried. This may be accomplished by using two or three hot towels.

Heredity plays an important rôle in the subject we are considering, and yet a person whose predisposition is strong for early baldness may stave off the inevitable for a long time by proper attention to the rules of hygiene here laid down.

The danger of contagion in barber shops has already been spoken of, but there is another danger which is often overlooked. It arises from the practice of allowing a barber to put various kinds of his preparations on the scalp. Many of the egg shampoos and cacao butter

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, J. A. Fordyce and H. G. Anthony.

shampoos will become rancid if kept up for any length of time, and when rancid they can not fail to act as irritants. Stiff hats by their pressure interfere undoubtedly with the circulation of the scalp and conduce to baldness. This merely needs to be mentioned, as it is already well known.

There are several curious things about the hair which are not easily explained. One is the commonly observed thickness of the hair of consumptives. Why any such wasting debilitating disease should result in increased growth of hair is hard to understand. On the other hand, many febrile and wasting diseases, such as typhoid fever and pneumonia, cause the hair to fall out. It is another curious thing that psoriasis, with its thick accumulation of scales pressing as they must on the hair roots, often causes but little loss of hair, even when persistent for a long time, whereas, seborrhea with its much smaller amount of scaling will usually cause the hair to begin to fall early.

Now, we might tabulate the causes of the loss of hair with an attempt to arrange them in the order of their frequency about as follows:

1. **Dandruff.**
   - Seborrhea sicca.
   - Eczema seborrhoicum.
   - Tricophytosis.
   - Favus.
   - Psoriasis.
   - Eczema squamosum.
   - Lupus erythematosus.
2. Heredity.
3. Fevers.
4. Improper hygiene.
5. Syphilis.
6. Alopecia areata.
7. Ulceration of follicles.
   - Traumata.
   - Sycosis.
   - Folliculitis decalvans.
8. Stretching of scalp by tumors (wens.)
9. Myxedema.
10. Chronic metallic poisoning (mercury, etc.)
11. Some rare diseases (pityriasis rubra.)

In the foregoing scheme dandruff is assigned the post of honor as being the most fertile source of alopecia, and when it is considered how many pathologic conditions are called by this name, it is small wonder that it should stand at the head. But even if we exclude from this title all diseases but seborrhea sicca and eczema seborrhoicum, dandruff would still be far and away the most common cause, and it is with this limitation that the term dandruff is henceforth used.

An easy deduction, then, is that every person who suffers from dandruff should get rid of it, if he wishes to preserve his hair as long as possible. This may be accomplished in various ways, but the most satisfactory method known to the writer is as follows: The dandruff is at first loosened by vigorous brushing with a rather stiff brush, and then a shampoo is ordered, for example, quinorcin soap.

After the scalp has been thoroughly cleansed by the shampoo, the following formula is to be used:

℞ Acidi salicylici 1
Sulphuris præcipitati ..... 2 | 5
Unguenti aquæ rosæ 25

M.

The patient is directed to part the hair, and then to rub in a small portion of the ointment along the part, working it well into the scalp at the roots of the hairs. Then another part is made parallel to the first, and more ointment rubbed in. Thus a series of first longitudinal and then transverse parts are made, until the whole scalp has been well anointed. Done in this way, it is not necessary to smear up the whole shaft of the hair, but only to reach the hair roots and the sebaceous glands, where the trouble is located. This process is thoroughly performed for six successive nights, and the seventh night another shampoo is taken. The eighth night the inunctions are commenced again, and this program is continued for six weeks. In almost every case the production of dandruff is checked completely after six weeks' treatment, and the hair, which may have been falling out rapidly before, begins to take firmer root. To be sure, many hairs which are on the point of falling when treatment is begun, will fall anyway, and it may even seem for a time as if the treatment were increasing the hairfall, on account of the mechanical dislodgment of such hairs, but this need never alarm one.

After six weeks of such treatment, the shampoo may be taken less frequently—say once in a fortnight. Yet when one thinks of it there seems every reason why the scalp, which offers such an easy lodgment for dust and dirt of all kinds, and which itself is casting off effete products surely as rapidly as the rest of the body, should be washed at least as often as the other parts of the body.

By such treatment, then, we have removed all dandruff, and by the reducing action of the sulphur on the sebaceous glands, have checked its further production for a time. But seborrhea is ultimately due to some one or more of a variety of causes, as follows:

Overproduction of sebum is due.
- 1. To the skin itself.
  - a. Natural tendency.
  - b. Poor nutrition. (Anemia. Chlorosis. Struma.)
  - c. Hypernutrition (puberty.)
- 2. To reflex action.
  - a. From genito-urinary organs.
  - b. From digestive tract. (Constipation. Indigestion. Toxins.)
  - c. From nose.
  - d. From brain (mental troubles.)

It need only be remarked here, that the most complete success in treatment can only be attained by reaching and removing the ultimate cause of the seborrhea, and that by far the most frequent of such causes is constipation, or some other gastrointestinal derangement.

Next to dandruff, perhaps the most common cause of early loss of hair is heredity. In some families all the male members, or all who resemble one particular ancestor, lose their hair early. Dark-haired families and races, as a rule, become bald earlier than those with light hair. At first thought, it would seem as though nothing could be done to prevent premature baldness when heredity is the cause, but this is a mistake. Careful hygiene of the scalp (which will be considered later) will often counterbalance hereditary predisposition for a number of years, and even after the hair has actually begun to fall, proper stimulation will, to a certain extent, and for a limited time, often restore to the hair its pristine thickness and strength. Any of the rubefacients may be prescribed for this purpose for daily use, such as croton oil, 1½ per cent.; tincture of cantharides, 15 per cent.; oil of cinnamon, 40 per cent.; tincture of capsicum, 15 per cent.; oil of mustard, 1 per cent., or any one of a dozen others. Tincture of capsicum is one of the best, and for a routine prescription the following has served me well:

℞ Resorcini 5
Tincturæ capsici 15
Olei ricini 10
Alcoholis q. s. ad 100
Olei Rosæ q. s.

M.

It is recommended that the stimulant be changed from time to time, so as not to rely on any one to the exclusion of the others. Jaborandi, oxygen gas, quinin and other agents have enjoyed a great reputation as hair producers for a time, and have then taken their proper position as aids, but not specifics, in restoring the hair.

It is a well-known fact that after many fevers, especially those accompanied by great depression, such as pneumonia, typhoid, puerperal or scarlet fever, the hair is very liable to fall out during convalescence. This is brought about in a variety of ways: In scarlatina the hair papilla shares in the general desquamation; in typhoid and the other fevers, the baldness may be the result either of the excessive seborrhea, which often accompanies these diseases, or may be caused by the general lowering of nutrition of the body. Unless the hair-fall be accompanied by considerable dandruff (in which case the above-recommended treatment should be vigorously employed), the ordinary hygiene of the scalp will result in a restoration of the hair in most cases, but the employment of moderate local stimulation, with the use of good general tonics, will hasten this end. It seems to me unwise to cut the hair of ladies short in these cases, because the baldness is practically never complete, and a certain proportion of the hairs will retain firm root. These may be augmented by a switch made of the hair which has fallen out, until the new hairs shall have grown long enough to do up well. In this way all of that oftentimes most annoying short-hair period is avoided.

When improper hygiene is given as a frequent cause of falling of the hair, it is with a due appreciation of the fact that savage tribes which devote little or no time to the care of the scalp are often characterized by a most bushy growth of hair, even to advanced old age. This means only that they have made up in some directions for their lack of care in others. An active life in the open air, conducive to a proper performance of all functions and to a general vigor of the system, as well as free ventilation for the scalp and an avoidance of pernicious modes of dressing the hair, are some of the reasons why a good head of hair is preserved under such conditions.

Fashion dictates that the hair of men should be kept cut pretty short, and of women never cut at all. Probably a mean between these two ways (*in medio tutissimus ibis*) would be best—say about as long as a football player wears his; for women's hair very often becomes frayed out and ragged at the ends, and men's hair is not allowed to grow long enough to serve its purpose as a protector against changes of temperature. The farmer, musician and artist decline to be governed by fashion in this respect, and as classes, have generally well-preserved hair.

The advice has been given to part the hair for a time on one side and then on the other, the idea being that if the part is invariably made in one place it tends to grow so wide before long as to constitute true baldness. This must be very rarely the case, for most individuals have their hair parted on one side from childhood to old age, and yet baldness is almost always symmetrical on the two sides. Women should avoid, in dressing the hair, any arrangement which causes constant tugging on any of the hair roots. In other words, it should be done up rather loosely. If this necessitates more frequent attention in order to keep it looking neat, so much the better for the hair.

Syphilis is such a well-known cause of alopecia that many men, on applying for relief from falling of the hair, hasten to assure us that they have never had any private disease. This assurance is unnecessary, as the syphilitic alopecia is generally very characteristic. The hair looks as if it had been nibbled off here and there, leaving tufts of normal length between the bald spots. These occur on all parts of the scalp alike, differing in this respect from other alopecias, and what is still more characteristic, the eyebrows often share in the nibbled appearance. This kind of alopecia is not permanent, but may last for months. Mercurial treatment internally, and ammoniated mercury ointment rubbed in to the scalp every night, will shorten the period greatly. The head should be shampooed at least once a week during this treatment. Destructive syphilitic lesions of the scalp sometimes produce patches of baldness which, in this case, is of course irremediable.

As for the other causes of premature loss of hair, they are so plainly diagnosed, and the prognosis and indications for treatment are so evident, that they are introduced here merely for the sake of completeness, and will not be further discussed.

In conclusion, it may be stated that the object of this paper has been to call attention to the great variety of causes which may produce falling of the hair, and to show that no treatment is liable to be successful unless based on a proper analysis of the case.

DISCUSSION.

DR. LUDWIG WEISS, New York City—A physician who had infected himself while operating, and also had a long illness with the resultant general infection, suffered after recovery with general absolute alopecia, but he regained his hair within two years. That seborrhea is an incurable disease, as Unna believes, is true, but it is incurable in a minor degree, fortunately. If it were really as it is regarded theoretically we would see a much larger number of baldheads than we now do in assemblies. Barbers are the main cause of the dissemination of baldness and other parasitic skin diseases. Pennsylvania has done pioneer work in this respect. The state of New York and the city of New York have issued regulations to barbers which are, however, as far as I know, mostly a dead letter. It would be easier for each individual to have his own outfit, his own brush, and not depend even on the brushes which have been disinfected by the barber. As has been stated here, seborrhea causes more alopecia than psoriasis. I think that is explained in this way: The sebaceous glands, as we know, serve to grease the hair within the follicles, while the lubrication of the skin is dependent mostly on the color glands. In psoriasis there is more hyperkeratosis present, which, however, does not extend down into the follicle, therefore the hair root is not checked, and this practically explains why in a severe sickness the hair does not fall out as in seborrhea. I have noticed that when an extracted hair bulb presents a dry, black appearance then another new growth can not be expected. I have not ascertained whether or not this is a pigmentosis of the hair bulb, but it seems to me a necrosis of the hair bulb due to the bacilli invading the hair root.

DR. J. B. KESSLER, Iowa City, Iowa—I do not think any dermatologist has as much trouble in caring for any other class of cases as he does with seborrhea or baldness. In almost any medical class, of forty or fifty, before they are through with their senior year one-fourth will apply to the dermatologist for treatment for this trouble, but I think as we progress we will have fewer people with baldheads. Why? Because it has only been in recent years that dermatology has been taught in our medical schools to any extent, and particularly where the students have been required to pass an examination on the subject. The result has been that most students, crowded for time in the last few months of their senior year, let go of what is called the superficialities and take the so-called "full chairs," and they go out to practice internal medicine or sur-

gery, the vast majority not knowing anything about treating seborrhea or diseases of the scalp. So far as hereditary alopecia is concerned, I think it is a difficult question to determine. You ask a patient if his father or his grandfather was bald, and he may say yes, or supposing he says no, that is no argument that the father or grandfather did not have seborrhea. It is very hard for a son to remember or for his father to tell him whether he had disease of the scalp. He simply remembers he was not bald, but that is no argument that he did not have seborrhea sicca. It is very difficult to determine whether an old hereditary baldness played any part in a recent case of seborrhea. In reference to cleansing the scalp, as mentioned in the paper, it has always been a question with me whether mental work had not a great deal to do with hereditary baldness. As you are aware, there are in each of your respective towns or cities coal haulers, for instance, or people who do that kind of work, whose scalps I do not believe have been cleansed from the time their mothers washed them until they die, who have an abundance of hair, baldness being the great exception. This makes me believe that there is something in mental strain, causing congestion and pressure on the hair bulbs. This, in my opinion, has something to do with premature falling of the hair.

DR. E. L. COCKS, New York City—I have half a dozen cases at the hospital with complete baldness due to *x*-ray treatment. The first was a case of alopecia areata and the *x*-ray was used to help it, how I do not know. The result was general alopecia. The second case was psoriasis. The *x*-ray removed the psoriasis and also the hairs. This was a year ago and the hairs have just commenced to reappear. The third case was that of a young man, aged 21, an epileptic. All other methods of treatment having failed to diminish the number of attacks, the *x*-rays were applied to the crown of the head. A few days after the third application he noticed that the hair was coming out in bunches. I saw him six months later, at which time there was complete alopecia. At the present time there is no sign of the hair returning. He has placed the case in the hands of his lawyer and I hope ere it comes to trial a new crop of hair may adorn his head for his own glorification and that of the *x*-ray therapeutist. Some say that where hairs come out they will come in as before, but that has not been my experience. The fourth case was syphilitic alopecia, and a mistake was made in the diagnosis, the physician thinking it was alopecia, but not due to syphilis. The result was the same. I think we ought to be more particular in giving instructions to the patient. We tell them to take this or the other ointment and use it, but in very few cases is it used as it should be. In order to treat the scalp properly we need a retinue of nurses, and unless we do treat such cases properly they will drift into the hands of the charlatans, and if they do I feel that we have ourselves to blame for it.

DR. A. RAVOGLI, Cincinnati—Seborrhea is one of the most effective factors in the production of alopecia, especially seborrhea sicca, when masses of scales containing a fatty substance are formed, covering nearly the entire scalp. In such cases there is great loss of hair. Sometimes we have a seborrhea that is scarcely perceptible, a very mild case, but it is often more dangerous because the patient does not take any care and then the hair begins to fall, and when the hairs have once fallen it is difficult to do any good. Another point: Sometimes we see patients who have never had real seborrhea, only a mild seborrhea oleosa. The scalp is usually clean, and yet they are losing their hair. I have found that these are the people who, on account of their business, usually wear hats continually, and I believe lack of circulation and the moisture which results from constantly wearing the hat has a great deal to do with the production of alopecia. In the treatment I have already pointed out that the use of formalin, a 2 per cent. solution in alcohol or eau de cologne, has given me good results on account of its antiparasitic properties, and sometimes also its stimulating effect on the circulation of the scalp.

DR. H. A. MCDONNELL—A number of cases of alopecia due to exposure to the *x*-ray have come to my notice. In some cases where patches have been produced there was isolation of parts that ought to be isolated, but loss of hair was brought about, over exposed parts, and in those cases, so far as I have observed, there has been no recurrence amounting to anything. I think it is stated by Bulkley and others with experience that the hairs do not come back as strong or in as great numbers as before. So far as the use of lotions to cure seborrhea is concerned, it has seemed to me that you can not get results. An aqueous solution will pass over the seborrhea like water from a duck's back. Formalin in alcohol might dissolve off the outer layer of the sebum but would not go where it is needed. It seems to me it needs something greasy or oily that will mix with the sebum and thus reach the sebaceous glands.

RADIUM AND ITS THERAPEUTIC POSSIBILITIES.*

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There is at the present time very general interest in the question of the therapeutic use of radium. It may also be added that there is very hazy knowledge as to what has actually been done with it. I have, therefore, thought that it would be worth while to consider the subject now in so far as is possible with the facts which are before us. Let me say at the outset that I have made no attempt to review all of the literature on this subject. I have only attempted to consider such authentic literature as seemed to me to have some bearing on the problem which I have undertaken to consider, viz., the therapeutic possibilities of radium. While the public press is teeming with vague and sensational accounts of the use of radium in disease, actual tangible facts are surprisingly few in the authentic literature of the subject. There does, however, seem to be enough data at command to warrant one in hazarding a pretty definite answer to the problem under consideration.

PROPERTIES OF RADIUM.

Radium is an element which belongs in the group of alkaline earths along with barium, calcium and strontium. As all the world knows, it was discovered by M. and Mme. Curie. Its elementary character was determined by spectrum analysis by M. Demarçay, who found that it gave a definite spectrum. Its atomic weight, as determined by the Curies, is about 225. Its atomic weight, therefore, is greater than that of any other known elements except thorium (231) and uranium (239). It is not known in the metallic state. It is obtained usually in the form of the chlorid or bromid of radium, and in the impure salts it is combined chiefly with barium chlorid or bromid. As suggested by the Curies, the activity of radium is expressed in units, the radioactivity of uranium being taken as the unit of measure. The activity of pure radium bromid is of 1,500,000 to 1,800,000 units.

The therapeutic interest in radium is dependent on the fact that it is an apparently spontaneous source of energy, and that some of this energy produces changes in living tissues. In any consideration of the therapeutic possibilities of radium, therefore, the properties of its radiations must have attention. These properties are the more interesting because they are peculiar to the group of substances of which radium is the most powerful and the type.

Radium gives off three kinds of rays: α rays, β rays, and γ rays.

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, J. A. Fordyce and H. G. Anthony.

THE α RAYS.

The α rays are believed to be a stream of positively charged particles of matter of about twice the size of the hydrogen atom. The amount of energy and the mass of these rays is enormously greater than those of the β rays and γ rays. The α rays have a positive electric charge and are deflected by the magnet. The velocity with which they are projected is approximately 20,000 miles per second, much less than that of the other rays, and their penetrating power is very slight. The α rays are a form of radiation new to us.

THE β RAYS.

The β rays consist of a stream of negatively charged particles (electrons) of about 1/1,000 the size of the hydrogen atom. They are deflected by the magnet, but owing to the difference in their electric charge they are deflected in the opposite direction from the α rays. They are projected at approximately the velocity of light. They correspond exactly in all their characteristics to the cathode rays of Crookes, and there is every reason to believe that the two are identical in character. When they strike a solid in their path, in all probability they generate *x*-rays.

THE γ RAYS.

The γ rays differ from either of the others in that they are apparently vibrations of the ether without mass. They travel with enormous velocity, and, like *x*-rays, are not deflected by the magnet. In their physical characteristics, so far as determined, they are identical with the *x*-rays from a hard tube.

Ninety-nine per cent. of the energy in radium radiations is found in the α rays, and 1 per cent. only in the β and γ rays. The amount of energy in the β rays, moreover, is much greater than that of the γ rays, perhaps ten times as great—Williams estimates it as being fifteen times as great—so that in the γ rays there is probably not more than 1-10 per cent. of the entire energy represented in radium radiations.

The α rays have very slight if any actinic properties. The β and γ rays are highly actinic, and this is of particular interest in our consideration, because these actinic properties are probably solely responsible for the effects on living tissues which are produced by radium. The β rays and the γ rays, like *x*-rays, affect the molecular structure of sensitive silver salts in a manner indistinguishable from that of light, and they produce changes in tissue cells analogous to those produced by *x*-rays.

Radium radiations, further, excite phosphorescence and fluorescence in certain substances, these substances being those in which similar phenomena are excited by light and by *x*-rays. They cause ionization of gases and thus render them conductors of electricity, so that electrified bodies in their presence are discharged as shown by the discharge of the electroscope in the air in the presence of radium. They all penetrate to a greater or less extent solid substances, but in this respect they differ enormously, the penetration of the γ rays being approximately 10,000 times as great as that of the α rays and 100 times as great as that of the β rays. Their relative penetration, according to Rutherford, is as follows:

α rays are cut down to one-half value in passing through a sheet of aluminum .0005 cm. thick.

β rays are cut down to one-half value in passing through a sheet of aluminum .05 cm. thick.

γ rays are cut down to one-half value in passing through a sheet of aluminum 8. cm. thick.

According to Williams, β rays are not effective on tissues at a greater depth than one-half inch, while γ rays from pure radium will pass entirely through the human body. The penetration of α rays is so slight that they will not pass through the glass tube or the thin sheet of mica which form the usual containers for radium.

In addition, radium gives off what Rutherford has called an emanation, which is capable of inducing radioactivity in other substances. This emanation is in the nature of a luminous gas. It can be confined within the walls of a closed receptacle, and it is condensed by intense cold—150 C.

Radium also gives off heat. Pure radium maintains its temperature at about 1½ C. above the surrounding atmosphere; it emits heat at the rate of about 100 calories per gram per hour.

Finally, radium apparently gives off the recently discovered gas, helium.

Some of these properties have no interest for us in a consideration of the therapeutic possibilities of radium. For example, the facts that radium gives off heat and perhaps the gas helium, the most inert substance known, are of no importance to us, nor is the fact that it is a spontaneous source of electric energy; we already have satisfactory methods of producing heat and electricity, and so far as we know we do not need helium.

The interest which attaches to it pertains to the properties of the rays which it gives off and to its emanation. The gaseous emanation from radium does not come into consideration in the clinical experiments which have thus far been made, for the reason that the radium in these experiments has been in closed containers, which prevent the escape of the emanation. The fact, however, that the emanation from radium produces radioactivity in other substances has been used as a basis for the attempt to render substances radioactive, and then to utilize this radioactivity as a therapeutic agent. No facts as to the value of this highly ingenious application of radioactivity exist, and it is not probable that the small quantity of radioactive energy that can be thus imparted will prove of any definite value in therapeutics. I believe this suggestion will prove to be only a bizarre idea. Shoddy has suggested the inhalation of this emanation in the treatment of diseases of the respiratory tract. Nothing definite has been determined along these lines.

Of the three kinds of rays from radium the therapeutic interest attaches to β rays and γ rays. The penetration of the α rays is so slight that they do not influence the tissues below the most superficial cells, and in all the clinical experiments which have been made with radium thus far the effect of the α rays must be thrown out of consideration for the reason that they do not penetrate the walls of the glass and mica containers in which the radium has been held. The β rays, which correspond to the cathode stream, have relatively a slight penetration and are absorbed by the first half-inch of the tissues. The γ rays alone penetrate deeply into the tissues. Thus the effect of the β rays will be obtained only in superficial tissues, while the γ rays can penetrate all of the tissues, and accordingly produce more or less effect on them. As very few of the γ rays are absorbed by the skin, and about all of the β rays are absorbed by it, there is no reason to doubt that the effects upon the tissues which have thus far been observed, including the necrotic burns, are the result of the β rays. In addition, according to Williams, the quantity of β rays given

off from radium is fifteen times as great as that of γ rays, and this relative preponderance of β rays still further influences the relative importance of these rays in the production of the effects on tissues. Indeed, the quantity of energy obtainable in the γ rays from any mass of radium preparations now in existence is so small that it would seem that any appreciable effect on tissues from the γ rays is impossible. For example, the quantity of energy represented by the γ rays from 100 milligrams of pure radium bromid is almost infinitesimal in comparison with the quantity of energy in the x-rays from a very hard tube, and yet we all know how the tissues will stand the bombardment of the highly penetrating x-rays from a very hard tube. Leaving out of consideration all other facts except the relative quantity of energy represented in the β and γ rays, if we wish to get a reaction in the tissues from γ rays an exposure must be given about fifteen times as long as that necessary to produce a reaction by the use of the β and γ rays combined.

A consideration of the foregoing properties of the different forms of energy given off by radium seems to indicate that in their actinic properties, and in their effect on living tissues we have to do with agents strikingly similar to x-rays. Now, what do the histologic and clinical facts thus far obtainable show?

GROSS EFFECTS ON LIVING TISSUES.

When the skin is exposed to radium there first appears an erythema; if the process goes beyond erythema, there develops a livid dermatitis; if it progresses further, vesicles develop upon the surface, the cells that are most affected undergo necrosis and indolent ulcers are produced. The process may not go beyond an erythema or congestion. If so, the erythema or congestion, first diffuse and later sharply circumscribed, becomes less marked and finally fades out. Scaling of the epidermis occurs, and at last a pigmented area is left to mark the site of the reaction. If the process goes on to the formation of ulcers the lesions that occur are very indolent. In the burns which M. Becquerel and M. Curie produced on their own persons the ulcers did not heal for about two months, and the duration was longer in the case reported by Hallopeau. All this is, of course, very strikingly like x-ray burns. Indeed, most of the descriptions which have been given of radium burns and the changes produced by radium in skin lesions might with perfect accuracy be applied to similar x-ray reactions.

Mackenzie Davidson has described a peculiar reaction which occurred in the course of the treatment of a case of carcinoma of the face with radium. In this case, after a long exposure to radium, an attack of what appeared to be erysipelas developed, with a temperature of 105, nausea, vomiting and prostration. A second similar attack occurred in the same patient, with a temperature of 103 after another long exposure. That these attacks were probably not true erysipelas is shown by the fact that culture experiments made from the serum, the blood and the secretion from the burn were negative. The explanation of these phenomena is probably a toxemia resulting from the absorption of cells rapidly degenerating, as the result of a very acute radium reaction.

According to Scholtz, the incubation period of radium burns is twenty-four to forty-eight hours, much shorter than that of x-ray burns, but an examination of the literature does not bear out this statement. The burn on Curie's person developed fourteen days after exposure, and Becquerel's developed ten days after exposure. In Halkin's experiments on young pigs, to be described later, the diffuse livid color developed eight days after the first exposure; the microscopic effects were most marked at the end of twenty-five days; after thirty-eight days the area showed only diffuse pigmentation and a few scales. In another of Halkin's experiments the first effect showed fifteen days after the first exposure. In the cases of epithelioma and lupus which have been treated with x-rays, the effects apparently developed usually from three to eight days after exposure. In a carcinomatous ulcer reported by Exner and Holzknecht, the lesion healed seventeen days after the first exposure, and twenty-nine days after the first exposure all trace of it had disappeared. It would seem, therefore, that the incubation period of radium burns is not strikingly different from that of x-ray burns, and with greater experience we may find that the difference is even less than appears at first glance.

EFFECTS ON THE EYE.

Radium produces luminous effects on the retina even when the eyes are closed. This is due either to fluorescence of the tissues of the eye, or to direct effect on the optic nerves, probably to the former. This effect has been taken advantage of by Javal, London and others in experimenting on the blind with radium. In his experiments Javal found in two cases of blindness in which there still remained a slight perception of light, that the patients perceived a light sensation when radium was held before the eyes. In two other cases of blindness, one due to optic atrophy and the other to glaucoma, both patients being absolutely blind, there was no perception of light from exposure to radium. London's results are to the same effect. Blind subjects who still retained a slight perception of light perceived a visual sensation when radium was applied to their eyes. In those totally blind the results were negative. Other observers have obtained the same results.

EFFECTS ON THE NERVOUS SYSTEM.

The effects on the nervous system are interesting and have been studied chiefly in young mice. London found that mice exposed to a strong preparation of radium were killed. There was first redness of the ears and blinking of the eyelids, then drowsiness, slowness of movement and feeble response to stimuli. This was followed by paralysis, then coma, and finally death. The symptoms developed about the third day of exposure, and the animals died on the fourth or fifth day. Along with these nervous symptoms were well marked effects on the skin. The hair and epidermis were loosened and the subcutaneous tissue was greatly congested. Similar experiments have been made on mice by placing the radium in actual contact with the surface. In a young mouse, one month old, in which a tube of radium was placed under the skin over the vertebral column, paresis occurred at the end of three hours, ataxia after seven hours, tetaniform convulsions and death in twelve to eighteen hours. Mice three to four months old died with the same symptoms in three to four days; those one year old died in six to ten days; guinea pigs, eight to twelve days old, died with similar symptoms in six to eight days. Adult guinea pigs and rabbits treated in the same way did not show any nervous troubles, but died with skin lesions some weeks or months afterward. An adult rabbit, in which a tube was placed under the dura for eight hours, developed a hemiplegia on the third day. It is probable that the difference in results in these

experiments in young animals and in adults is due to the fact that the cartilages and soft bones of the young offer little resistance to the radiations from radium, while the well-developed bones of the cranium and spine of adults offer an effectual barrier to the α and β rays.

In brief, the symptoms are: First, depression of the central nervous system, followed by arrest of the functions of the cerebrospinal system, and then death. The explanation of these nervous symptoms lies doubtless in the disintegration of the nerve cells produced by the Becquerel rays.

MICROSCOPIC EFFECTS ON TISSUES.

The microscopic changes produced in tissues by radium have been studied by Exner, Scholtz, Halkin and others. The studies of Halkin are the most elaborate and are particularly interesting because they were made on young pigs and can be compared with the very thorough study by Scholtz of *x*-ray burns produced experimentally in pigs. Halkin's studies, epitomized as briefly as possible, are as follows:

He used for experiments to determine the action of Becquerel rays on the skin guinea pigs and young pigs, the cutaneous structure of the latter corresponding very closely to that of the human skin.

Microscopically, there was no change from the normal one day after exposure. After three days the first changes were evident, these consisting of increased prominence of the capillaries of the upper part of the corium. After five days the capillaries were noticeably dilated, but there was no change visible in their walls and no surrounding infiltration. After seven days a slight infiltration was visible around the vessels, and there were some leucocytes in the connective tissue, and all of the capillaries and small vessels were much dilated and filled with blood. The cells of the intima were swollen and their nuclei were larger than normal. As yet no change had appeared in the epidermis. Twelve days after the first exposure the changes in the blood vessels were still more marked. There was much degeneration of the cells of the vessel walls, which were markedly vacuolated, and some of which had dropped off into the lumina. Pigment cells in the corium were much more numerous than normal. In the center of the affected area the connective tissue of the corium was degenerated. There was marked vacuolation of the cells and the connective tissue was infiltrated with leucocytes. The entire palisade layer of the epidermis showed numerous vacuolations. The protoplasm stained with difficulty, the nuclei were fragmented and the boundary between the epidermis and the cutis was indistinct. A few leucocytes were present in the epidermis. After twenty days there was present a condition of ulceration. The horny layer of the epidermis was raised up, broken into flakes and contained some nucleated cells. The rete malpighii had almost entirely vanished, being represented only by one or two rows of irregularly swollen cells with faintly stained nuclei. The only remains of the palisade layer was a mass of cell remnants and fragmented nuclei. There was much more pigment present than normal, lying among the fragmented cells. The corium presented in a more advanced degree the changes already described. There were only a few leucocytes to be found in the exudation. The hair follicles showed the same degenerative changes as the epidermis, but to a less marked extent. After twenty-four days the dilatation of the blood vessels was advanced to such an extent that they were represented by large spaces through which hemorrhage had taken place into the tissues.

From this series of observations it is evident that the Becquerel rays affect at the same time all of the elements of the skin, epithelium, connective tissue and blood vessels. The effect on the vessels appears first, but there is no reason to look upon this as the cause of the other phenomena.

Halkin has also exposed areas of lupous tissue to the Becquerel rays. Here, both in the normal and in the lupous tissue, there was cellular degeneration, dilatation of the vessels and hemorrhage. The changes appeared, however, only in the most superficial layers of the skin, and the deeper portions were unaffected, not the slightest change being visible.

Time does not permit me to compare here with these studies of Halkin's the studies of Scholtz on *x*-ray burns in young pigs; but comparison would be interesting and instructive on account of the striking similarity of the findings. Indeed, one description might almost be substituted for the other, so closely do they agree, and the two studies seem to leave little room for doubt that the histologic changes produced in tissues by *x*-rays and those produced by radium are almost identical in character. The chief difference, indeed, is the greater depth of the *x*-ray effects. There is the same inflammatory reaction, the endarteritis and the degeneration of the affected cells. And doubtless the explanation of the changes is the same. The living cells are susceptible to the actinic energy of Becquerel rays, as they are to the actinic energy of *x*-rays, and under the bombardment of this energy their structure is at first disturbed and then disintegrated. And in my opinion, although we have no microscopic studies on which to base the statement, the explanation of the disappearance of epitheliomata and similar growths under Becquerel rays is the same as after *x*-ray exposure. The tumor cells are as susceptible as the healthy cells to the actinic effects of Becquerel rays, but they are of lower resistance, and their structure is disintegrated, and they degenerate before the healthy cells are so violently affected.

EFFECT ON BACTERIA.

According to the meagre experiments thus far available, Becquerel rays have bactericidal properties. Aschkinass and Caspari found that three hours' exposure to radium killed the bacillus prodigiosus in cultures. Pfeifer and Friedberger found that cultures of typhoid and cholera bacilli exposed at one cm. distance from radium were killed, and Henry Crooks reports similar results on various bacteria exposed to Becquerel rays.

THERAPEUTIC APPLICATION.

Now, what are the therapeutic possibilities which are held out to us by these various properties of Becquerel rays? In a general way, I think there can be no doubt that the therapeutic indications for the use of Becquerel rays lie along the same general lines as the therapeutic indications for the use of *x*-rays.

Perhaps Becquerel rays have greater bactericidal properties *per se* than *x*-rays, but *x*-rays do indirectly cause the destruction of bacteria in living tissues, and I doubt very much if it will be proved that there is any material difference in this respect between these different forms of energy.

The effect of Becquerel rays upon the nervous system may possibly in future have some therapeutic application—he would be a bold man who would deny any possibility to such an agent—but it is not easy to see any practical application of this property at present. The skull and spine present an effectual barrier to all of the

radiations from radium except γ rays, and the effect of γ rays is so slight that we are practically precluded from producing any effect upon the central nervous system by radium, without removing the bony envelope covering the area which we wish to affect. But even were it possible for us to get the effect of Becquerel rays upon any part of the central nervous system, I know of no conditions except new growths in which the application of the agent offers any present possibilities.

It is hard to see what application can be made of the fact that in persons who are partially blind a visual sensation can be produced by Becquerel rays. The experiments thus far simply indicate, what we already know, that the opacities which interfere with the passage of light and thus prevent its producing a sensation upon the retina, do not interfere with the passage of Becquerel rays, so that Becquerel rays can produce their normal effect on the retina of these subjects.

The probabilities thus seem to be that the field of usefulness of Becquerel rays will be in the destruction of bacteria, in the influence which they have on the metabolism of cells, and in the capacity which they have for causing destruction of cells of low resistance; in other words, along the same lines along which lies the usefulness of *x*-rays.

A consideration of the clinical applications which radium has thus far had lends further probability to this position.

CLINICAL RESULTS.

Aside from the use of radium in malignant neoplasms, it has been given a very limited trial in a few cutaneous diseases.

Acne.—Williams reports that he has treated one case of acne by exposing each pustule to the radium through an opening in a sheet of lead foil. These applications were followed by healing of the pustules.

Eczema.—Williams, in two cases of eczema, gave two exposures with some improvement.

Psoriasis.—Williams, in two cases of psoriasis, used radium over some small areas, which healed a few days after the exposure. Holzknecht also has reported beneficial results from radium exposures in psoriasis.

Lupus.—A number of cases of lupus successfully treated with radium have been reported by various observers, including Danlos, Scholtz, Holzknecht, Davidson, Williams, Blandamour, Abbe and MacIntyre. The results are of the same character as those gotten from the use of *x*-rays, and seem to indicate that we now have a third method added to those at our command for the treatment of this disease. But there is no evidence that it is better than either *x*-rays or ultra-violet light, and, according to Halkin's experiments, the lack of depth of the effect on the tissues would indicate that it is not so efficient as either of these other methods. In some of the cases a successful result has been produced by only one exposure, so that there may be a possibility of greater rapidity of results with radium than by other methods.

Keloid.—Williams has treated two small keloids in one patient, one with radium, the other with *x*-rays. He has had improvement in both lesions, but this has been more rapid in the one treated with radium.

Telangiectases.—Holzknecht has exhibited a case of flat vascular nevus in which at points of application of radium there had been a reaction followed by destruction of the blood vessels, so that at these points there were islands of skin of normal white color.

In the very limited trial which radium has had in the foregoing affections the results are apparently the same that are gotten from the use of *x*-rays. From what we know of the effect of radium on tissues, and bearing in mind the similarity of this effect to the effect of *x*-rays, I believe it will be found that radium has a distinct field of usefulness in some of these cutaneous diseases. In chronic intractable eczemas, in psoriasis, in lichen planus and in similar chronic inflammatory diseases of the skin there are good theoretical reasons for expecting benefit from the effect of Becquerel rays. In acne, too, there is a possibility of usefulness of this agent, and perhaps in sycosis, though if it is to be useful in these conditions it would seem necessary to be able to treat the cases by general exposures rather than by attempting to give an exposure to each individual lesion. In lupus there are certainly good grounds, both from theoretical considerations and from definite results already obtained, to attempt the use of radium. In keloid and nevus there is good ground to hope for the usefulness of this method of treatment. With Holzknecht, I believe from theoretical considerations that radium probably offers us a better method of treating vascular nevus than we have either in *x*-rays or ultra-violet light.

Epithelioma.—The successful treatment of epitheliomata with radium has been reported by a number of observers—among others, by Sichel, Scholtz, Davidson, Williams and Abbe. Including with epithelioma rodent ulcer, Williams has reported twenty-eight cases treated with radium. About half of these cases are healed and half show improvement more or less great. Most of the cases reported by the various observers are small epitheliomata, such as offer no difficulty of treatment by *x*-rays, and the results do not indicate that radium is either more or less efficient in these cases than *x*-rays. Williams has reported a case of epithelioma of the lower lip which has shown greater improvement under radium than under steady exposures to *x*-rays, and Mackenzie Davidson has had a similar favorable experience in an epithelioma successfuly treated with radium, which had resisted both Finsen's and *x*-ray treatment. On the other hand, MacIntyre has reported a case of epithelioma which was not affected by exposures to radium, but which was cured by *x*-rays, although the radium used in the case produced burns on normal skin with much less exposure than was given the epithelioma. There are, in addition to the cases of moderate severity referred to above, a few severe cases of cutaneous carcinoma treated with radium which reflect distinct credit on this method of treatment. The following case of Davidson's is one of these: There was an extensive carcinoma on the right side of the face in which the right cheek had been destroyed, the tongue and teeth laid bare, the upper and lower lips destroyed to within an inch of the middle line, and the hard and soft palate extensively invaded. After vigorous exposures for some time there was on two occasions the development of an erysipelas-like reaction, which was followed by great improvement. At the time of the report the discharge was greatly lessened and not at all offensive, the tongue was clean and the patient could speak distinctly. Cicatrization was going on slowly but steadily. Both *x*-rays and operation had failed in this case. The improvement in this case is not unlike that which has been noted under *x*-ray exposures in numerous equally severe similar cases, but the fact that *x*-rays had failed in the case is to be borne in mind, and the improvement under radium after the failure of *x*-rays should be allowed due credit.

Carcinoma.—In carcinomata beneath the skin the reports indicate that radium will clean up small subcutaneous nodules, but there is nothing to indicate that it will be anything like so efficient an agent as we already have in *x*-rays for any but the most superficial growths.

Davidson has treated several cases of carcinoma with radium with no good results, and he epitomizes his experience with the statement that "the conclusion forced on us is that with the present method of application radium is of no use whatever in carcinoma."

Reed has caused the disappearance of subcutaneous nodules of recurrent carcinoma of the breast by exposures to radium, and Williams has treated three cases of recurrent carcinoma of the breast with improvement.

On account of its convenience of application, radium may have a field of usefulness, in the palliative treatment at least, of carcinomata in the cavities of the body, and benefit has been seen in carcinoma of the rectum, of the uterus, and of the esophagus.

Carcinoma in the Cavities of the Body.—In two cases of cancer of the uterus Abbe found the symptoms much ameliorated, with marked loss of cancerous cachexia as the result of treatment with radium, and he saw similar improvement in cases of rectal carcinoma.

Cleaves has had great improvement from the combined use of radium and *x*-rays in uterine carcinoma.

I also have seen apparent benefit from the insertion of a tube of radium into the cervix uteri in carcinoma of the uterus.

Carcinoma of the Esophagus.—Exner has very ingeniously used radium to overcome impermeable strictures of the esophagus. He introduced the radium imbedded in dammar and fastened to a No. 16 bougie. In five cases the stricture became enlarged, and the dilatation persisted after the treatment was stopped. The increased permeability of the stricture, he thought, was due to the necrosis of the tissues under the influence of the radium. Of course, this treatment should not be undertaken without due consideration of the possibility of perforation.

I think it possible that radium may be used to advantage in similar manner by insertion into tuberculous and other sinuses, and into the substance of malignant growths, as has been suggested.

Sarcoma.—Radium has had a very limited application in sarcoma. Abbe has briefly referred to one giant cell sarcoma of the jaw, under treatment with radium, which has shown noticeable improvement.

Exner and Holzknecht have demonstrated a case from Professor Gassenbauer's clinic, Vienna, of melano-sarcoma of the left humerus. Three years before a sarcoma had been removed, and after eight months several subcutaneous dark colored nodules had been noticed. A section from one of these proved them to be melano-sarcoma. Nodules exposed to the point of producing dermatitis disappeared, their place being revealed only by depressed cicatrices. In another case of melano-sarcoma they had similar success in removing cutaneous metastases with radium.

Cleaves has reported a sarcoma of the left cheek which has been improved under radium exposures.

SUMMARY OF RESULTS.

The results which have been obtained from the use of radium in cutaneous carcinomas, epitheliomas and rodent ulcers are certainly interesting, and show, I believe, that we have in the use of radium another efficient method of treating small cutaneous carcinomas with radiant energy. And if that is so, there is certainly the best possible reason for making every effort to determine the full limit of usefulness of radium in these conditions. Whether radium or *x*-rays will prove the better agent for the treatment of cutaneous carcinomas without metastases, which are now so well treated with *x*-rays, only future experience will show. I do not believe that radium or any other method can possibly give better results than are now gotten in most cases of this sort from the use of *x*-rays, but with improved technic as a result of greater experience it may be found that radium will prove the more convenient and the more easily applied of the two agents. If it shall be proved by future experience that radium is the better method of treatment, I believe its superiority will be found to rest on unessential questions of convenience and ease of application, rather than on any essential superiority. Possibly in epithelioma, and, indeed, lupus and other conditions that ordinarily yield to *x*-rays, some of the very rare cases which fail to yield to *x*-rays may be found to yield to radium, as already found in one of Williams' and one of Davidson's cases.

Doubtless also we will find cases which will not yield to radium, and these cases may be among the very large proportion that yield to *x*-rays. Indeed, exactly this has happened already in a case of MacIntyre's which yielded to *x*-rays after a strong preparation of radium had failed. Thus the two agents may be of value in supplementing each other in certain cases which prove insusceptible to one or the other. According to Williams' experience, and this is confirmed by some other reports—the improvement in epitheliomas and certain other conditions which yield to *x*-rays and to radium, is more rapid under radium than under *x*-rays, but our data are not sufficient yet to allow any definite conclusions upon this point. The length of treatment with *x*-rays, and doubtless with radium, is largely dependent on the manner in which the exposures are given, and the question of rapidity of cure, therefore, is in part a matter of technic.

The attempts at treatment with radium of malignant neoplasms beneath the surface are not encouraging, and on theoretical consideration I do not believe that we may expect much usefulness from radium in the treatment of any sort of malignant growths beneath the surface. I believe that in this particular we will find radium distinctly less valuable than *x*-rays. On the other hand, radium, I believe, will have a definite though limited field of usefulness in the treatment of lesions situated in inaccessible locations where it is difficult or impossible to apply *x*-rays, but where radiations from radium can be applied readily. For example, in carcinoma of the uterus, of the rectum, and of the mouth, the application of radium offers no difficulty, and if it proves an agent of even slight efficiency in controlling the growth of malignant neoplasms it surely has a field of usefulness in malignant growths in the less accessible cavities of the body. This is shown already in its use in carcinoma of the rectum, of the uterus, and of the esophagus. I think I may say that I have found it distinctly of value inserted into the cervix in uterine carcinoma, and I have certainly found it valuable in the treatment of lesions in the mouth that were impossible of direct exposure to *x*-rays. Radium also offers a possible advantage over *x*-rays in the accuracy of dosage which its use makes possible when we have definitely determined its range of activity. With a given preparation of radium we can

give a definite dose of the radiations, the only varying factors in the exposure being the distance from the lesion and the duration of the exposure. Such accuracy, of course, is impossible with *x*-rays. That this advantage will prove of material value in the hands of experts I think questionable, since the *x*-ray exposures can already be given with sufficient accuracy as to dosage for all practical purposes. On the other hand, *x*-rays have a very important advantage over radium in the quantity of energy at our command. The amount of energy available in a well-excited *x*-ray tube is enormously greater than that emitted by any quantity of radium now obtainable or likely to be obtainable.

GENERAL CONCLUSIONS.

To sum up, then, the situation, in my opinion, is about as follows: Radium produces effects upon the tissues closely analogous to if not identical with those produced by *x*-rays. The indications, accordingly, for its therapeutic uses are along the same lines as those for *x*-rays, viz., in certain inflammatory diseases of the skin, like eczema, psoriasis, lupus erythematosus and lichen planus. In certain bacterial diseases of the skin, like acne, sycosis, lupus vulgaris and blastomycosis. In certain diseases where we wish to cause destruction of tissues of low resistance, as in lupus vulgaris, carcinoma and sarcoma.

These are exactly the indications for the therapeutic use of *x*-rays, and future experience alone can determine which of the two agents will prove of the greater practical value in meeting these indications. In some respects I believe radium will prove superior; in the far greater number it seems to me that *x*-rays will have the larger field of usefulness. In the treatment of lupus and cutaneous carcinoma, we have sufficient experience to give us a fairly accurate technic in the use of radium. For its use in affections other than those which are sharply circumscribed to small areas, the technic has not yet been developed.

It is probable that Becquerel rays will be efficient only to a very limited depth. This conclusion is based, first, on the fact that the greatest effect on the tissues is produced by the β rays, which have a relatively slight penetration, and, second, on the studies made by Halkin on the effect of radium on tissues. On account of lack of depth of effect it is not likely that radium will be as effective as *x*-rays against lesions of more than half an inch in thickness or subcutaneous in situation. Becquerel rays have theoretical advantages over *x*-rays in the accuracy of dosage which will be possible after we have obtained experience in their use. They also have advantages in their ease of application at inaccessible points. They have a disadvantage in the relatively small quantity of energy available, and in the limitation accordingly of any single efficient exposure to a very small area.

It is highly improbable that the use of radium is going to be of epoch-making importance in therapeutics. It supplements and it may add materially to the methods now at our command for using actinic radiant energy in therapeutics. If it becomes less expensive and obtainable in relatively larger quantities, it may supplant to a limited extent the use of *x*-rays and ultraviolet light, although in my opinion this is not probable. At the present time it is not an entire substitute for either of them, and is to a very great degree less efficient than *x*-rays in its general therapeutic usefulness.

Finally, the therapeutic possibilities of radium have, in my opinion, rather been overstated than understated in the foregoing estimate.

DISCUSSION.

DR. WILLIAM T. CORLETT, Cleveland, Ohio—I have seen the effect of radium in Cleveland and can corroborate some of the statements made. It does have an effect on certain structures in certain diseases of the skin, lupus and epithelioma especially, but so far as I have been able to see has less effect than that produced by the *x*-ray. Certain cases in Cleveland have been treated as was the following: A case of lupus vulgaris was treated with the *x*-ray successfully at first, but there came a time when the *x*-ray failed to produce any further effect and then it was supplemented by treatment with radium, and for a time apparently with marked benefit. There was a reaction which kept up for a certain length of time, so that the disease was decidedly better than when the *x*-ray was discarded, but continued treatment failed to produce any further favorable effect. It was thought it might act as a stimulant to the effect of the *x*-ray. Those of you who have had experience know that a point is frequently reached when further treatment is useless. I had an opportunity of seeing these cases subjected to the Finsen light when benefit from the *x*-ray failed and those cases usually went on satisfactorily. You can see cases in Finsen's laboratory of lupus vulgaris where there came a stage of the treatment when the Finsen light failed to have further effect and the *x*-ray applied would complete an apparent recovery. So we thought in Cleveland that radium might serve this purpose, but so far our experience has been rather disappointing.

DR. JAY F. SCHAMBERG, Philadelphia—In the Philadelphia Polyclinic we have employed radium in a limited number of cases of cutaneous diseases. Most were carcinoma of the skin; some were extensive and perhaps we should not have expected any favorable result from the use of radium. In several other cases, however, the extent of the growth was limited. The radium employed was said to be of 1,400,000 activity, made by Tschamer of Hamburg. In only one of the patients treated was there any definite reaction from the radium. The applications were made by contact with the skin. In the last patient, treated a few weeks ago for a small superficial epithelioma of the side of the nose, there was a very distinct reaction after perhaps five or six treatments of one hour each, given about twice a week; the reaction was followed by a superficial necrosis which, after healing, was followed by a very great softening of the induration. At the present time the epithelioma is considerably improved, but will require further treatment.

While we may have in radium a remedy which permits of accuracy of dosage, there must be considerable difference in the reaction of the skin of different individuals to this remedy. In a patient with blastomycosis of the skin radium was applied for 15 treatments, one hour each, without the least reaction being visible. In another patient, the case just referred to, after five treatments there was a very distinct alteration of the skin. It seems to me that in radium we have an agent with a very restricted field of usefulness. We know that the penetrating power of radium is extremely limited. We attempted at the Polyclinic to photograph the hand of a cadaver with the particle of radium mentioned and exposed the hand twenty-four hours; at the end of this time the plate was developed and showed merely a shadowgraph of the entire hand without distinction of the bone structures. I therefore agree with Dr. Pusey that the amount of energy which is given off from radium is extremely small and not to be compared with the great quantity of energy radiated from an excited Crookes tube. If radium is to acquire a place in the therapeutics of cutaneous and other diseases it will probably find its most fertile field of usefulness in inaccessible mucous cavities. It is possible that radium of high activity may be advantageously employed in the deep recesses of the nose, mouth, vagina or rectum, but up to the present time no wonderful results have to my knowledge been obtained. Indeed,

I do not know that radium has cured any conditions that would not have yielded to other approved methods of treatment.

The public press is largely responsible for the highly colored and exaggerated accounts of the therapeutic virtues of radium. Newspaper articles have excited the popular mind to a state of expectancy which practical results have not justified. The physical properties of radium far transcend in interest and importance its virtues as a remedial agent. Physicians should be very slow to advise the application of radium for the relief of conditions which can perhaps be better treated by safer and more efficient methods.

DR. L. DUNCAN BULKLEY, New York City—I entirely agree with the conclusions Dr. Pusey has drawn. I have been observing radium in the New York Skin and Cancer Hospital clinic for six months. We have had a dozen or more cases submitted to its application. Unquestionably radium has a powerful effect on the tissues; in several cases we got burns quite as marked as with the *x*-ray, only of small size, because the application of radium only covers a small area. So there is no question that it can have a powerful effect if the applications are made long enough. We began with an application of 15 minutes' duration on a boy 13 years old who had had lupus on the cheek since early childhood. I was enthusiastic, having read the accounts in the French journals six or eight months ago, and I spoke of it in the clinic and insisted that we would have this boy well after half a dozen applications. After three months the lupus was still there. The boy was a pay patient that I had sent to the hospital, and I did not feel justified in carrying out further experiments with him. He was then exposed to the *x*-ray for six or eight months, and when I saw him a week ago we could barely perceive one or two little points, the majority of the surface being smooth and to all intents he was well. We tested several other cases of lupus with the same result. I think, however, as Dr. Pusey said, radium is going to be a valuable addition to our armamentarium in the application to inaccessible cavities. We have had at the hospital several cases of epithelioma within the buccal cavity thus treated. In one case the man with epithelioma beneath the tongue, in front, declining operation, was treated by radium, and certainly the disease melted down nearly half. Another case of epithelioma of the tongue, far back toward the tonsil, which would have required a very formidable operation by surgical means, was melted down in the same way. The effect of radium in that case was certainly marvelous. I think we are only beginning to study the subject, but Dr. Pusey's paper is very timely in view of the extravagant statements in the newspapers and what the French have said in the skin journals. I think, however, that we have never seen such results as they claim to have produced.

DR. M. L. HEIDINGSFELD, Cincinnati—On what exact distinctions do scientists base their division of Alpha, Beta and Gamma rays? Is it a purely arbitrary and empirical division, based largely, as noted in the paper, on the varying degrees of facility with which some of these rays penetrate interposed layers of resistance? It appears to me that the exact nature of these rays is still an unsolved problem, much the same as their analogous and apparently somewhat closely allied *x*-rays. A more rational explanation would be that they consist of minute radioactive material particles, driven with intense but with varying degrees of velocity and penetrative power.

DR. WILLIAM ALLEN PUSEY—I think that the general experience corresponds to what I have gathered from the literature and to my own experience. I believe we must make some allowance in the difference in our results for the fact that there is a very great difference in the activities of the preparations of radium available. The German radium bromid, of which Dr. Schamberg spoke, is highly active, but I do not think that even it will give such marked effect as some of the preparations of radium of the Curies. As to the use of radium of seven, ten or twenty thousand units activity, it is relatively so weak that its application must be very long to obtain any effect. I agree with Dr. Schamberg that there is probably a very decided difference in the susceptibilities of different individuals to radium radiations. I have also attempted to use in conjunction with radium other radioactive substances. Dr. Schamberg has used uranium. I have tried thorium nitrate and oxid, which are more active than uranium and comparatively cheap, but I have not seen any definite effects from them.

ACNE KERATOSA.*

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Under the varying designations of acne keratosa, acne cornée, keratotic acne, keratosis follicularis contagiosa and acne sebacea concreta, a peculiar glandular affection of the skin has been recorded by a few observers. I have had occasion to study two cases during the past winter, and the accompanying notes are based on them. The literature of the affection is scanty; I have been able to find but 11 cases in all. Crocker and Jamieson[1] describe 4, J. C. White[2] 2, and Du Castel,[3] Giovannini,[4] Hallopeau,[5] Hallopeau and Macrey,[6] and Tenneson and Leredde[7] one each. On these, the descriptions in the text-books of Thibierge,[8] Jarisch,[9] Kaposi[10] and others are based.

Some even of these few cases are open to doubt. Thus those of White seem to have been cases of Darier's disease; psorosperms were afterward demonstrated in them by Bowen. In spite of the paucity of recorded material, however, I can not think that the affection is so very rare. Cases are very liable to be regarded as instances of ordinary acne, molluscum contagiosum or warts. This happened to my own before they came under my observation.

A study of the recorded cases shows very plainly that the designation "acne keratosa" has been applied to lesions different in kind, but alike in the facts that the eruption consisted of isolated acuminate lesions surrounding the glandular orifices of the skin, and with corneous accumulations in the openings. At least three types have been distinguished.

The first and simplest is that described long ago by Hardy,[11] where yellowish-gray or blackish prominences, acuminate and firm, and one-half to one millimeter in diameter, appear on the skin. The integument surrounding the tumors is normal; pressure on it causes the extrusion of the central corneous mass, and the follicular orifice remains patent until renewed corneous formation occurs. The lesions may be isolated, disseminated or grouped; they appear especially on the face around the nose, but are also found on the trunk and limbs. Though they cause no functional troubles, they are chronic in their course and very rebellious to

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*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, J. A. Fordyce and H. G. Anthony.

1. Crocker and Jamieson: British Journal of Dermatology, January, 1899, and August, 1901.
2. White, J. C.: Journal of Cutaneous Diseases, June, 1899.
3. Du Castel: Monatshefte für praktische Dermatologie, vol. xxxiii, p. 439.
4. Giovannini: Gazetta Medica di Torini, No. 41, 1899.
5. Hallopeau: Annales de Dermatologie et de Syphiligraphie, 1899.
6. Hallopeau and Macrey: Monatshefte für praktische Dermatologie, vol. xxii, 1896, p. 77.
7. Tenneson and Laredde: Annales de Dermatologie et de Syphiligraphie, No. 4, 1895.
8. Thibierge: La Pratique Dermatologique, Besnier, Brocq and Jacquet, vol. i, p. 251.
9. Jarisch: Die Hautkrankheiten, Vienna, 1900.
10. Kaposi: Pathologie und Therapie der Hautkrankheiten, Vienna, 1893.
11. Hardy: Lecons sur les Maladies de la Peau, 1865, p. 108.

treatment. They are seen at all ages, but occur especially in the young. Their cause is entirely unknown.

The anatomy has been studied by Leloir and Vidal.[12] They found that the process was essentially a pilar folliculitis, with considerable thickening of the corneous epidermis of that structure. In the midst of the corneous accumulation were stainable epidermic cells, showing that the process of keratinization was incomplete. The hairs were strangled in the cell accumulation, and there were slight signs of inflammation in the surrounding tissue. Leloir and Vidal regard this type of the affection as a folliculitis, and not an acne, since the hair sacs, and not the sebaceous follicles, are the parts affected.

A second type is that described by Tenneson and Leredde[7] under the rather inappropriate name of acne cornée exanthematique. The lesions were similar to those of the first type, but the eruption was much more general and grouped or policyclic in arrangement. The microscope showed thickening of the corneous layer at the orifices of the sebaceous glands, forming a true crater around the hairs, but the follicles and glands themselves were not affected. The case was evidently closely related to true acne.

Finally, the cases recorded by Brooke[13] under the name of contagious follicular keratitis differed from those heretofore mentioned, in that they developed spontaneously in several children of a family, appeared to be contagious, and progressed rapidly and spontaneously to recovery.

Crocker's four cases[1] resembled those of the first type in some respects, and especially in their early stages. But when the corneous plugs were removed by scratching, on account of the irritation that they occasioned, the lesions continued to enlarge, there was renewed corneous formation, and there finally resulted large, even nail-sized marginate excoriations covered with horny masses. Healing was very slow; the lesions lasted for months, and showed great tendency to return *in situ;* and in one of Crocker's cases the disease had lasted forty years. There was difference of opinion as to the results of the microscopic examination, Crocker holding that the hyperkeratosis began in the sebaceous glands, while Jamieson thought it pilar in origin.

Du Castel's case[3] was of the second variety, for the characteristic lesions were grouped in plaques on the arms, neck, chin and legs. Both the reporter and Darier claimed that the hair follicles were the seat of the disease; it was a follicular keratitis, rather than a corneus acne in the restricted sense of that term. Giovannini's[4] case was similar clinically, but the sebaceous glands were atrophied and filled with cells identical with those of the malpighian layer. On the basis of his examination the author is inclined to regard the affection as an atrophy of the sebaceous glands, with the hyperkeratosis as a secondary phenomena.

In the case reported by Hallopeau,[5] the concretions were found to be seated in both the sebaceous glands and the hair follicles. Chemically and microscopically, they were composed mostly of fat. J. C. White's cases,[2] as above stated, were finally recognized as true psorospermoses. That of Tenneson and Leredde[7] showed generalized grouped lesions, mixed with those of ordinary acne. The microscope demonstrated their sebaceous origin. As did Giovannini,[4] these authors recognized an atrophy, probably from pressure of the gland lobules. Hallopeau and Macrey[6] failed to find Unna's acne bacillus in their case.

In the present state of our dermatologic knowledge, it seems to me that the multiplication of disease types by emphasizing minor clinical or anatomic differences is a service of very doubtful value. We are overwhelmed with the mass of observations and astray in the desert of terminology. The time for classification, for simplification, for synthesis, has evidently arrived, and we anxiously await the advent of the new Hebra who will bring order out of the chaos.

In view, therefore, of the essential clinical identity of the lesions in all these cases, we can disregard variations of arrangement, or even of precise anatomic origin. We have an eruption composed of acneform lesions, non-suppurative and but slightly inflammatory, with the formation of hard plugs composed chiefly of keratinized epithelial cells in the gland orifices, probably locally contagious, and tending after a time to spontaneous recovery. This is a definite clinical entity.

Fig. 1.—Acne keratosa. Lesions in various stages of development.

Of my own two cases one has been under observation during the past winter, and has been studied with some care. The second case has only recently appeared, and as the lesions are precisely similar to those of the first patient, I shall confine myself chiefly to this latter.

CASE 1.—A. B., aged 12, Dec. 13, 1903. Since his second year the lesions of which he complains have come on his face, head and hands; they have never appeared anywhere else. They come and go slowly; sometimes they are more and sometimes they are less numerous; but he has never been entirely free from them. They cause no subjective sensations save a little itching. Each lesion appears as a minute red spot, which gets larger and larger. Then there appears a black mark on the top, which is hard, and which reappears when it is scratched off. Nothing ever comes out of them. After increasing to a certain size the lesion slowly "dries up" and goes away, leaving a stain. Then others come out in different places.

The patient is a perfectly healthy lad; he has had measles and some tonsillar trouble. There are two other children; neither they nor any other members of the family have had anything of the kind.

12. Leloir and Vidal: Comptes rendus de la Societe de Biologie, April, 1882.

13. Brooke: La Pratique Dermatologique, Besnier, Brocq and Jacquet, vol. I, p. 252.

Examination.—The lesions present are mostly round, acuminate, hard nobules, slightly erythematous at their bases, and varying in size from less than a pinhead to a large pea. Each one shows a more or less brownish or blackish horny concretion in its center. This is recognizable with a magnifying glass even in the very minutest of them; and it can be felt as a hard, pointed projection even where it is hardly visible to the naked eye. In the larger and older rounded lesions the corneous plug is the size of a small round pea; the outer layers are brownish-black; the central portion is black, pointed, sometimes curved, and projects a millimeter above the surface of the skin. Firm pressure on the base of the tumor effects expression of the plug; a gaping glandular orifice is left behind. There are no acne lesions of the ordinary kind anywhere, nor is there any serum or pus in any of the efflorescences. (Fig. 1.)

There are some lesions present, however, of different appearance. They are oval or crescentic areas, with slightly indurated and erythematous margins similar to the smaller lesions, and with large, somewhat elevated, dark colored, hard,

Fig. 2.—Acne keratosa.

horny accumulations in their centers. Removal of these central masses, which are but moderately adherent, leaves an excoriated depression behind. Some of these lesions are quite large; one of them is over half an inch in size. The patient says that generally when the spots reach pea size, and the central concretion falls or is scratched off, retrogression begins; but sometimes the lesions continue to grow. The central accumulation may be removed and may reappear a number of times, and it may be several months before definite healing occurs. (Fig. 2.)

All the lesions are on the hands and face; there have in the past been some on the scalp, but never any on any other part of the body. On the back of the right hand there are 15, together with some superficial stains and scars marking the sites of former efflorescences. On the back of the left hand are 12; on each cheek, 3, and there is 1 on the center of the forehead. Palms and soles are free and have always been so, nor have the feet ever been affected.

Microscopic Examination.—During the next few weeks I excised a number of lesions for microscopic examination. A peculiar circumstance was the fact that sometimes, and apparently oftenest when the excision was confined as closely as possible to the affected nodule, and included no healthy skin, the resultant lesions assumed all the characters of the larger efflorescences described above. The edges became a little hard and red, a blackish corneous accumulation appeared in the

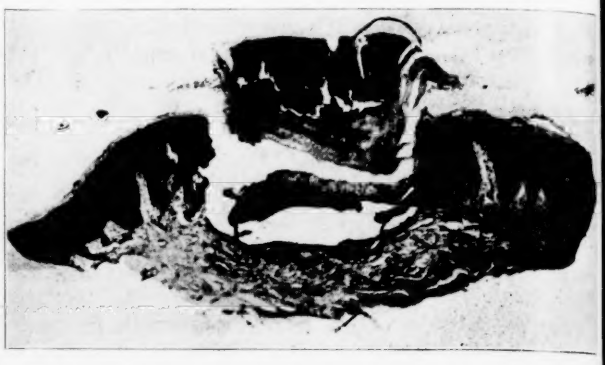

Fig. 3.—Acne keratosa. Nodule with partially extruded plug

center, and the usual slow course of extrusion preceded the final healing.

Sectioning presented unusual difficulties. No matter how carefully the material was hardened, the corneous central plug was an almost insurmountable obstacle to the preparation of satisfactory sections. In almost every case the plug was displaced during the manipulations, and when a perfect

Fig. 4.—Acne keratosa. Corneous plug, showing persistence of the epithelia.

section was obtained it was usually too thick for microphotographic purposes or even for satisfactory examination. The accompanying prints show the best that I could do.

Briefly stated the anatomic features of the lesions were as follows: The corneous layer in the region surrounding each sebaceous gland was greatly thickened, forming a crateriform mass, with more or less sloping edges. The thickening was

most marked in the upper part of the follicle, and was thinner in the lower. The sebaceous cells themselves could only be distinguished in the deepest parts of the follicles; they were atrophic and flattened, evidently from pressure. In none of the specimens could any hair structures be found.

In the smallest and earliest lesions the dilated follicle formed an irregularly oval sac, broad above and pointed in its deepest portion. In the larger and later lesions the sac was broad and crateriform. (Figs. 3 and 4.) And in every case the sac was occupied by the keratinized mass that is characteristic of the disease. There were some migratory cells in the connective tissue around the walls of the sebaceous glands, but in general the evidences of inflammatory action were but slightly marked.

The corneous plug itself was composed of a mass of imperfectly keratinized corneous cells. (Fig. 5.) Throughout its mass the protoplasm and nuclei could be stained, showing that the process of keratinization was incomplete. In the upper central part of each fully developed plug, however, was a small

Fig. 5.—Acne keratosa. Deep portion of corneous plug, showing degenerated cells resembling psorosperms.

mass of cell material that seemed to have undergone a complete change, and in which no persistence of cell structure could be demonstrated. No necrotic hairs or their remains, as claimed by Tenneson and Leredde, were found in any of the plugs.

Differential Diagnosis.—The anatomic picture resembles that of ordinary acne and comedo in some respects; but it differs in the absence of the small-celled perivascular infiltration surrounding the follicular epithelium that marks the inflammatory nature of the acne lesions, and the comedo plugs are not composed entirely of imperfectly keratinized corneous cells. It is as characteristic in its way as is the clinical picture of the affection.

I might add that the larger oval and crescentic lesions that were exceptionally noted were found microscopically to be exactly similar to the smaller ones.

The cases, therefore, were true hyperkeratoses of the sebaceous glands, without any demonstrable pilar involvement. We are entirely in the dark as to its cause.

In both the cases that came under my observation the affection was confined to the backs of the hands and the face, a fact that inclines me to believe that a contagious element of some kind, spread by direct local transfer, was its cause.

144 West Forty-eighth Street.

MESENTERIC EMBOLISM AND THROMBOSIS.

A STUDY OF TWO HUNDRED AND FOURTEEN CASES.

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(*Concluded from page 114.*)

DISCUSSION OF SYMPTOMS AND PHYSICAL SIGNS.

Pain.—Five cases were found in which no symptoms referable to the abdomen were present. In 157 cases accurate data as to the pain were given.

	Per cent.
General abdominal pain	51
Pain in epigastrium	8
Pain about umbilicus	7
Pain in lower abdomen	4
Pain in right hypochondrium	4
Pain in upper abdomen	4
Pain in hypogastrium	3
Pain in right iliac fossa	3
Pain in right side of abdomen	2
Pain in left hypochondrium	1
Pain in left side	1
Pain absent	8
Pain radiating	4

In two cases pain radiated from right to left hypochondrium, while one case of each of the following was met: From navel to bladder; from vulva to navel; from right iliac fossa all over abdomen; from bladder to cecum and umbilicus; and from the epigastrium to the right side of umbilicus. In most cases the pain is sudden in onset, and usually constant and dull, with colicky exacerbations of extreme severity. The intermittent character comes out strongly in some instances, while in others it is less evident. The causation of the pain is generally admitted to be due to the intestinal contraction. Borszéky[37] so considers it, and refers to the experimental work of Kader.[32] Schnitzler,[38] however, maintains that in cases of the intermittent recurring character, such as have just been mentioned, the pain is identical with that described by Charcot in the so-called intermittent claudication. We have here an artery which has become much reduced in caliber by the endarterial process, but which under good heart action is wholly competent. Lessening of blood pressure by heart weakness, however, causes a local anemia in the area supplied by the diseased vessel, which in turn gives rise to the pain called by Schnitzler "intermittent anemic dysperistalsis." A case of Schnitzler and one of Lepine[39] well illustrate this type.

Nausea and Vomiting.—This is usually present following the pain. When the onset of the disease is more gradual, this may or may not be present. According to the severity and duration of the process, the vomitus is either normal stomach contents, bile-stained, fecal or finally clear blood.

Diarrhea or Constipation.—According to Kussmaul and Gerhardt, bloody stools are essential for the diagno-

37. Bruns' Beiträge z. klin. Chir., vol. xxxi, p. 704.
38. Wiener med. Woch., 1901, Nos. 11-12.
39. Quoted by Schnitzler.

sis. Several other authors, among them Deckart and Neutra, oppose this view, and our present analysis bears them out. Of 153 cases, in which accurate data on this point are given, we find:

	Per cent.
Obstipation	22
Bloody stools	19
Diarrhea without blood	13
Normal stools	12
Diarrhea, later becoming bloody	10
Obstipation followed by bloody diarrhea	6
Normal stools, succeeded by obstipation	5
Normal stools followed by bloody diarrhea, diarrhea followed by obstipation, bloody diarrhea followed by obstipation, obstipation followed by diarrhea, each	3
Obstipation followed by normal stools, bloody diarrhea followed by normal stools, normal stools followed by diarrhea, each	0.3

Adding these together, we find that blood occurs in the stools at one time or another in 41 per cent. of the cases. The statement that obstinate constipation was present from the beginning Neutra thinks improbable. He considers this due to lack of observation or explains by saying that the spasmodic contractions of the intestines, which cause the colicky pains, pass so quickly into the paralytic stage that there was no movement of the bowels as a result. The first statement can naturally neither be proved nor disproved, but the latter is warranted by the large number of cases where bloody intestinal contents were found at autopsy, although this had not appeared during life. It is certain, however, that though the above percentages may not be absolutely accurate, blood is found in the stools with sufficient frequency to make it of considerably more diagnostic value than Borszéky's statements imply.

Abdominal Tenderness.—This was noted in 115 cases. In 30 per cent. of these it was absent; in 70 per cent., present. Its localization, when present, is shown by the following:

	Per cent.
General abdominal tenderness	67
Localized about navel	8
Localized about cecum	7
Localized in epigastrium	7
Localized in hypogastrium	4
Localized on left side of navel	2
Localized in right hypochondrium	2
Localized at McBurney's point	1
Localized at right costal border	1
Localized at several points in hypogastrium	1

Distension.—This is usually a rather late sign, and one of increasing severity. It was mentioned in 125 of the cases. In 22 per cent. of these it was absent, in 78 per cent. present. When present it was:

	Per cent.
General	96
Localized below navel	2
Localized in right hypogastrium	1
Localized in upper abdomen	1

The experiments of Kader, already mentioned, showed the following events on ligation of the superior mesenteric artery: Contraction of the coils of intestine and anemia of them; then hyperemia followed by complete intestinal paralysis, when stasis had occurred; then lastly came distension from gases of decomposition.

Intestinal Obstruction.—This is one of the most important appearances and occurs rapidly in many cases. Deckart (and Rosenbach already quoted) explains this by nutritional disturbances. In some instances the ensuing peritonitis is undoubtedly the cause of the ileus, but that this is not always the case is shown by cases where it follows immediately the closure of the vessel, at a time when there can be no question of either peritonitis or necrosis of the gut wall.

A symptom of minor importance is hiccough, which is found in a few cases. In our cases there has been found also a marked increase in the leucocyte count, and a positive iodin reaction (iodophilia). In a certain number of cases sugar has been found in the urine (see Case 1), but it has not been possible to determine from the reports whether this was present before his intestinal symptoms began. In Case 1 it was already present. Its previous absence would make its finding of some worth, however, since from the experiments of Tangl and Harley[40] and Kolisch,[41] one of the results of closure of the mesenteric vessels is glycosuria. Also an increased elimination of indoxyl is often seen in these cases. There is often evidence of nephritis of varying grades of severity.

The temperature usually falls below normal, though not infrequently an increase is observed, which perhaps is due to accompanying processes, such as peritonitis, endocarditis or toxic absorption from the intestinal contents.

Of interest are those cases referred to by Talke,[42] in which purpuric spots are seen. He makes the occurrence of purpura of considerable diagnostic value. Such cases also demonstrate the embolic nature of purpura in certain instances. Here must also be noted the articles by Osler, the last of which appeared in the *American Journal of Medical Sciences* for January, 1904. Several cases are here given of disease of the so-called erythema type, in which, together with purpuric spots and various other cutaneous symptoms, there occurred also abdominal symptoms, such as pain and bloody intestinal movements. The case described by Talke showed undoubted embolism of the mesenteric vessels. In none of Osler's cases was this present. From a clinical point of view it would seem, however, that an early differential diagnosis were impossible.

Diagnosis.—This is admitted by all to be exceeding difficult, and the more so because the symptoms have the same causation as in several other acute abdominal lesions. Gerhardt[43] makes the following diagnostic postulates:

1. There must be present a source of the embolus.
2. There are present copious intestinal hemorrhages, unexplainable by disease of the gut wall or by hindrance to the portal circulation.
3. There is quick and marked fall of body temperature.
4. Colicky abdominal pains, which may be very severe.
5. Later distension of the abdomen and free fluid occur.
6. Emboli of other parts may have been present before or may occur simultaneously with closure of the mesenteric vessels.
7. There occurs sometimes a large, palpable blood tumor between the layers of the mesentery.

Clinically it is very rare to find all these points present, and so the diagnostic value of the above schema is considerably impaired. It can not be wholly discarded, however, but, as Neutra says, only in the presence of the greatest number of points of this schema can the diagnosis be made with any degree of certainty.

Schrötter[44] says that if the characteristic disease picture develops in the case of a younger individual, with a heart lesion, one immediately thinks of embolus. In an older individual, with arteriosclerosis, a sudden occurrence of the symptom-complex makes embolism most probable. With slow development, at any age, throm-

40. Pflüger's Archiv, vol. lx.
41. Centralblt. f. klin. Med., 1892, p. 737.
42. Bruns' Beiträge z. klin. Chir., 1903, vol. xxxviii, p. 743.
43. Würzburger med. Zeitschrift, 1863, vol. iv, p. 141.
44. Nothnagel's Spezielle Pathol. u. Therapie, vol. xv.

botic processes of either artery or vein are more probable. According to Köster,[45] it is impossible to differentiate between closure of arteries and that of veins.

The conditions which are most often confounded with these cases of intestinal paralysis are those where the obstruction is due to a mechanical hindrance. These are intussusception, volvulus, strangulation by bands or obstruction from gallstones or cancer. Also those diseases which may cause blood in the stools or vomitus must be ruled out. Such are gastric or duodenal ulcer, heart and liver disease.

Naunyn[46] considers dysenteric, foul-smelling hemorrhagic stools characteristic of intussusception, but these also are found in closure of mesenteric vessels. Nothnagel[47] thinks the variations in size and shape of the sausage-shaped tumor in intussusception, caused by the contractions, to be of value. We must remember, however, that there are cases of mesenteric occlusion which have tumors of the mesentery caused either by hemorrhage or edema.

In volvulus, which is usually of the lower bowel, it is impossible to inject any great quantity of water.

Obstruction due to cancer, gallstones, etc., is usually more gradual in onset, and in the previous history there will most often be found data for differentiation.

The differentiation from portal thrombosis is usually impossible, since this is, in many instances, only an earlier stage in the same disease process. In this connection, Stefan[48] thinks that the presence of a large amount of fluid in the abdomen, in a case where intestinal obstruction of the paralytic type has occurred suddenly, speaks for mesenteric as against portal thrombosis. Tuberculosis and malignant disease must first have been ruled out. Occasionally in portal thrombosis we are able to note the gradual increase in the size of the spleen. Schrötter[44] also mentions in differential diagnosis the rare cases of aneurism of the hepatic artery. This rarely causes symptoms until it ruptures, when severe abdominal pain occurs. The sac has usually become adherent to the intestine or bile passages, and so there occurs hematemesis or melena. In this condition, however, it is to be noted that the attacks are usually recurring, and last through weeks, that often jaundice is present, and that signs or symptoms of peritonitis are absent.

So, too, the various clinical tests showing the presence of sugar, or much increased indoxyl in the urine, or the increase of white cells and marked iodophilia in the blood, since they are all consistent with intestinal obstruction from various causes, show nothing specific for those cases due to occlusion of mesenteric vessels.

We must agree with Hemmeter,[49] therefore, when he says that in the large majority of cases the nearest to a recognition of the correct state of affairs that will be made is the diagnosis of intestinal obstruction.

Prognosis.—As has been seen in speaking of the course of the disease, the condition is a very fatal one. Even granting the diagnosis to be correct in all the reported cases, we have a mortality of about 94 per cent. The condition is admirably summed up by Neutra, whom we quote: "In cases of acute onset, the prognosis is indeed very grave, but by no means absolutely bad, since behind these severe symptoms there may be hidden a chronic process which favors the formation of a collateral circulation, and on this the prognosis depends. If, on the other hand, the course is a chronic one, and only a few exacerbations are present, between which there is complete absence of symptoms, the prognosis, nevertheless, is moderately bad, since in these cases it must be assumed that because of some hindrance a competent collateral circulation can not be formed. Accordingly, thrombosis of mesenteric arteries is of relatively better prognosis than embolus."

Treatment.—Basing his treatment on what has gone before, Neutra advises, in the early stages, drugs to increase the blood pressure, or a light abdominal massage to displace the clot, if possible, and spread it into smaller branches. Both of these means seem to the writers to be illusionary. It does not seem to us that any treatment is rational except that of exploratory laparotomy, in every case where the patient's general condition will warrant it, and as soon as even a tentative diagnosis has been made.

Operation.—Operation has been done for the condition in 47 of the reported cases, with a mortality of 92 per cent., only 4 cases having recovered so far as reported. It seemed, therefore, to be of interest to review the pathologic findings in the non-operated cases, to see whether in these, had the diagnosis been made, operation could have been of any avail. The case showing the largest extent of resected gut is that of Elliott, in which 48 inches were removed, with complete recovery. Making this the upper limit, the autopsies show 24 non-operative cases, having the following extent of involvement:

One case showing 1 inch.
One case showing 2 inches.
Two cases showing 4 inches.
One case showing 8 inches.
One case showing 10 inches.
One case showing 1 foot.
One case showing 16 inches.
Two cases showing 20 feet
Two cases showing 2 feet.
One case showing 31 inches.
One case showing 38 inches.
Four cases showing 39 inches.
One case showing "several inches."
Four cases showing "one coil."
One case showing 2 coils.

That some of these cases would not have been benefited by excision of the gangrenous area is undoubtedly true. The extremely low general condition of the patient or the high situation of vessel closure prevents us supposing any other course than a lethal one. In 15 of these cases, however, there is nothing brought out in either the history or autopsy protocol to contraindicate a resection. These cases have to do with a small area and the vessels in its immediate supply, and these conditions have been found most frequently in cases of venous closure.

We feel also that faulty technic has been a factor in some of the operative failures. In many cases it is impossible, even with good demarcation lines, to be sure that the gangrene has reached its limit. For this reason those operations in which the resection has been followed by immediate anastomosis seem unwise. They also expose the patient to an operation which is too long and involves too much trauma.

The method of procedure which we advise, therefore, is to bring the involved gut well out of the wound, with liberal, sound margins left at either end, and after resection to fix the open ends in the wound, well walled off with gauze tampons. If peritonitis is present, a speedy flushing out of the cavity with hot saline solution, through the Tait tube, is advisable, and adds but

45. Deutsch. med. Woch., 1898, p. 325.
46. Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1896.
47. Spezielle Path. u. Therapie.
48. Nederl. Tijdschr. voor Geneesk., 1900, from Centralblatt f. klin Med., 1901, p. 178.
49. Diseases of the Intestine, 1902, vol. ii.

little to the trauma of the operation. With both ends of the intestine thus open, the distension can be relieved, and the intestine watched for signs of further gangrenous involvement. Such an operation as we describe ought not to necessitate over fifteen or twenty minutes anesthesia.

We do not claim that many cases can be successfully treated by this or by any other method, but it does seem as if an occasional case might be saved, and certainly this method puts the patient in the best position to recover, if such be possible.

LATER CASES.

While the preceding article was in press, the following cases occurred, which we add to the above list. The first is a good illustration of the venous type of thrombosis, occurring as a terminal event, after operation for umbilical hernia, in an excessively obese old woman, with poor heart action.

CASE 28.—(Dr. C. A. Porter.) Woman, 64 years, entered Massachusetts General Hospital Feb. 17, 1904.

Previous History.—Has always been healthy. Has had five children, the youngest 33 years old. At last childbirth had double milk-leg, and has had enlarged veins of legs ever since. Sixteen years ago varicose ulcers appeared on each leg, and have persisted. Thirty years ago she first noticed a bunch, the size of a walnut, just to the left of the umbilicus. Since that time this bunch has been enlarging slowly to its present size. One year ago first noticed a bulging of abdominal wall, size of one's palm, just above the umbilicus. Soon after this she had stoppage of the bowels, and vomited for two or three days; was relieved by big dose of physic. For past six or seven years has been able to get about only when wearing an abdominal swathe. For many years has had some pain in the rupture.

Present Illness.—February 13 and 14 she had very small movement from bowels, with some cramps. Took physic without result. February 15 began to have severe pain in abdomen, about umbilicus, associated with much vomiting. This has continued. Bowels have not moved since February 14.

Physical Examination.—Markedly obese. Heart and lungs negative. Abdomen tympanitic and considerably distended. In region of umbilicus is a tumor, evidently an umbilical hernia, the size of a small football. Abdomen is tender just above this tumor. Ulcer on each leg.

Operation.—(Dr. C. A. Porter.) February 17. Radical cure of an incarcerated umbilical hernia, which contained about six inches of the transverse colon and a large amount of omentum. The patient made a fair recovery from ether, considering her condition at entrance. Convalescence was complicated by slight fever, due to a mild wound infection, which showed itself first March 6, when a pocket of pus was evacuated and drained.

March 11. Slight syncopal attack, cyanotic, dyspnea, hands cold. This was relieved by a bed-rest, digitalis and strychnia. During the next week she was kept on digitalis and strychnia; had to have a bed-rest to relieve the dyspnea. During this time hands were for the most part cold and blue, but now and then became warm.

Death.—March 22. In the morning she became distinctly worse and very cyanotic; complained of colicky pains in the abdomen. Physical examination showed the abdomen markedly distended, with some dullness in both loins. At 5 p. m. she vomited a large amount of brown material, without fecal odor, which proved on examination to be chiefly blood. She rapidly failed, and died early in the evening.

AUTOPSY.

Anatomic Diagnosis.—(Dr. Oscar Richardson.) March 23, 1904. Thrombosis of the portal vein, with hemorrhagic infarction of the small intestine, and with hemorrhage into the stomach and intestine. Congestion of the spleen and pancreas, with small hemorrhagic areas in their tissues. Ascites, cholelithiasis; arteriosclerosis of the aorta; fatty infiltration of the myocardium of the right ventricle, with hypertrophy and dilatation of the heart. Chronic pleuritis. Hemorrhagic edema of the lungs. Thrombosis of the right common and external iliac and femoral veins. Edema of the lower extremities. Small abscess in the mass of adhesions at the base of the old operation wound.

Peritoneal cavity contains a large amount of reddish fluid. At a point 270 cm. above the ileocecal valve, the small intestine, over a distance of 120 cm. above this point, presents walls of a marked blackish-crimson color. At each end of this strip of intestine this marked change in the color of the wall ceases suddenly. The mesentery supporting this strip of intestine shows no distinct change in its color, but is slightly thicker than normal. In places, toward the root of the mesentery, engorged veins are plainly visible. The serosa of this involved portion of gut presents fine, fibrinous-like material on its surface. The descending colon, sigmoid and rectum, on section, show nothing remarkable. The small intestine, on section, contains a large amount of blackish, bloody semi-fluid material. The bloody character of this material is most marked in that portion of the small gut which shows the marked discoloration of its walls. These walls, on section, are of a blackish-crimson color, opaque, and there drips from them a thick fluid, blood-like material. The mucosa of the small intestine below this infarcted strip is more or less reddened. No ulcers are found in either the small or the large intestine. On section of the portal vein it is found to be distended and occluded by a large, grayish-yellow to blackish-red, fibrinous material, about 10 cm. in length, which is in places adherent to the intima. The circumference of the vein is 4.5 cm. The adhering mass is continued a short distance into the great branches of the portal vein in the liver, and is propagated from there on into the small branches as blackish-red, more or less firm blood clot. From the lower portion of the portal vein this occluding thrombus mass is propagated into the gastric, splenic and superior mesenteric veins and their radicles, as black more or less firmly-clotted blood. As far as can be determined, the inferior mesenteric vein appears to be much more free from the clotted blood than any of the other branches of the portal vein. The intima of the splenic vein, near its junction with the portal, shows a place where the clotted blood is adherent to it. A large branch of the superior mesenteric vein, apparently the colica dextra, is distended with blackish-red clotted blood, and is plainly traceable to the mass of fibrous tissue, colon and omentum at the base of the healed wound in the abdominal wall.

The mesenteric arteries are free, and the intima smooth. The right common and external iliac veins and the first portion of the femoral vein, on section, present a grayish-red to blackish-red fibrous mass of material, which is rather firmly adherent to the intima in places.

Culture from clot in portal vein showed a colon-like bacillus; those from the liver show this same bacillus, and also a few streptococci. All other cultures were negative.

In this case it appeared as if the primary thrombosis formed in the portal vein, from which the other mesenteric vessels were filled by backward extension. It is impossible to explain the origin of this thrombosis. It may have been due to infection of the wound, though this appears to us unlikely, as the peritoneum was not involved in the infection, or secondly and most probably, the thrombosis developed as a result of her poor cardiac action for a period of ten days.

The following case has been kindly sent by Dr. Elmer H. Copeland of Northampton, Mass., under whose care the patient was:

CASE 29.—Man, aged 61 years. Typhoid 36 years ago; well and active since.

Present Illness.—Feb. 6, 1904. Attack of pain in left inguinal region, with some tenderness. Bowels had not moved for two days. Temperature, 96.5 F. After active cathartic, bowels moved several times, with relief of the pain. No blood in movements. The pain returned soon, however, and could not be relieved.

Operation.—(Dr. G. W. W. Brewster, Boston.) Feb. 9, 1904. Entire small intestine of dark red color, like "bologna sausage," with several spots of a darker red. Abdomen washed out and closed. Operation gave no relief of pain, which continued to be spasmodic in character. Temperature rose to 103, with vomiting (not bloody) and abdominal distension, and patient died February 11, fifty-three hours after operation.

AUTOPSY.

These several spots of gangrene above mentioned were present at autopsy, and also an area of gangrene six inches in length, about six feet below the pylorus, which extended around the entire circumference of the gut. Below this the intestine was empty; above, it contained semi-fluid, slightly bloody fecal matter. The blood vessels were not examined.

The following very interesting case is at present in the wards of the Massachusetts General Hospital under the care of Dr. J. W. Elliott:

CASE 30.—Man, 22 years, electrician, entered the medical wards of the hospital April 7, 1904, with the diagnosis of a duodenal or peptic ulcer.

Previous History.—Until three years ago had been very robust. One year ago had pneumonia.

Present Illness.—Perfectly well until three weeks ago, when he began to have pain in epigastrium, and inability to keep food on his stomach. Has good appetite, but vomits all he eats. At first vomitus consisted of food eaten, but lately has been of "coffee grounds" character. For past week has vomited three or four times a day, never any fresh blood.

Physical Examination.—Well developed and fairly well nourished. Pupils equal and react. Glands in both sides of neck, right axilla and groin, varying in size from a pea to a large bean. Left epitrochlear gland hard and shot-like. Heart and lungs negative. Abdomen full, muscles held rather rigidly, tympanitic throughout, no masses. Considerable tenderness beneath left rectus, and some spasm in epigastrium. Small scar on dorsum of penis.

April 14. Vomited some blood last night, and does not feel very well. Has some pain in epigastrium, with tenderness. Abdomen slightly distended. Vague sense of mass in right hypochondrium, with distinct resistance of right rectus. Liver dullness slightly diminished.

Urine: acid, specific gravity 1030; albumin absent; sugar absent; leucocytes, 7,300.

Operation.—(Dr. Elliott.) April 14. Median incision in epigastrium. No free fluid. Sponge passed to pelvis brought up a little fluid, not cloudy or foul. Thorough palpation of stomach gave no evidence of disease. It was not dilated. Pylorus not abnormal. Small intestine looked rather dark, as if the contents were bloody. Upper part of jejunum distended. This was brought forward to anterior wall of stomach and gastrojejunostomy made. Mucous membrane of jejunum very thin and friable.

April 15. Vomited some dark material this morning, and color is rather cyanotic. Urine: acid, specific gravity 1033; albumin absent; sugar absent.

April 16. Some fever to-day and abdomen tender and distended; relieved by enema. Leucocytes, 9,300.

April 18. Patient more comfortable. Vomited this afternoon after potassium iodid. Abdomen soft. Retaining nutrient enemata well, which, however, have to be given small. Taking considerable amount of liquid by mouth.

April 22. Patient looks brighter and in better condition. Is now taking soft solids. Wound united by first intention.

April 25. Gaining. No complaints.

April 28. Excellent appetite. Retains and digests all food. Is having soft solids, chicken, etc.

May 1. Daily gain.

May 2. Complained of slight pain in abdomen to-day, which soon passed away.

May 3. This morning patient was seized with abdominal pain, not localized, cramp-like, accompanied by some nausea and vomiting. Abdomen soft, slight tenderness in left lower quadrant. During day patient had steady pain, with rare remissions. At night slightly more easy, when a vague resistance and sense of mass was felt in left lower quadrant. Two enemata have had no result. Leucocytes, 21,400.

May 4. Pain persists. Rigidity of left rectus with tumor felt beneath it. Slight spasm of right rectus. No dullness, no nausea. Leucocytes, 24,600.

Operation.—(Dr. Elliott.) May 4. Small amount of cloudy fluid found in peritoneal cavity. A coil of much distended and almost black small intestine lay beneath the incision, with neighboring coils slightly adhering to each other, and a little fibrin on them. Mesentery black almost to its root. Coil pulled out and 14 inches found gangrenous, but peritoneum still intact. Affected gut resected and ends brought out of wound. No strangulation present.

May 11. Since this second operation the patient's condition has been fairly satisfactory. He occasionally has considerable pain in the wound. Nourishment by mouth is retained, though there is at times some nausea. There is no pyrexia or other evidence of peritonitis or further gut involvement. The seat of the diseased gut could not be determined at operation because of the poor condition of the patient. If his condition permits, a secondary anastomosis of the resected intestinal ends will be done in the near future.

It seems evident that whatever the process that existed before the time of the first operation, the definite intestinal involvement began May 2, at the time when the pain and vomiting occurred. Though no gastric lesion was found at the first operation, the marked improvement in the patient's condition for over two weeks would seem to exclude the existence of a mesenteric thrombosis or embolism before this date. At present we can only speculate as to the nature of the original trouble.

NOTE: In the complete article to be published in the reprints, there appears a résumé of the cases recorded in the literature and a bibliography.

DOES GONORRHEA CAUSE PROSTATIC HYPERTROPHY?*

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The theories of pathologists concerning the etiology of various diseases have often a very mild and hazy interest for the busy practitioner of medicine, however hot the *odium scientificum* may boil. Occasionally, however, etiologic theory impinges on therapeutic practice, and forthwith the clinician is stimulated to keen interest.

Of late years two such theories have bubbled to the top amid the various conflicting views concerning the causes of prostatic hypertrophy. The one, the theory of testicular secretion with its train of castrations and vasectomies, is a recent memory. The other, the theory of prostatic inflammation, awaits practical confirmation.

From the days when the microscope was first applied to the study of prostatic hypertrophy, it has been an open question whether the inflammation always or almost always found associated with hypertrophy was effect or cause. But until recently those who held inflammation to be secondary have had rather the best of the argument. In the days of Thompson and Virchow the prostatic myoma held sway, a product quite beyond the power of inflammation. Later improved microscopic technic showed the "myoma" to be actually a fibrous growth and the result of inflammation. But still the "adenoma" stood between and relegated inflammation to a second place. Motz is perhaps the most outspoken champion of the theory that prostatic hypertrophy is

*Read before the Genito-Urinary Section of the New York Academy of Medicine, May 18, 1904.

the result of grandular proliferation in which secondary congestion and inflammation cause fibrous changes, the greater or less proportions of which explain the various degrees of adenomatous and fibromatous hypertrophy encountered clinically.

Leaving aside the heresies of atheroma and testicular secretion (the former of which has required so much theoretic killing, while practice proved the natural death of the latter), such has been the general trend of theory up to the time of Ciechanowsky.

CIECHANOWSKY'S THEORY.

In 1896 Stanislaus Ciechanowsky published the first of a series of monographs, the most comprehensive of which, "Anatomical Researches on the So-called Prostatic Hypertrophy and Allied Processes in the Bladder and Kidneys," was edited in English by Dr. R. H. Greene last year. The chief conclusions of this very conscientious and scientific series of pathologic researches are: 1, To pulverize through five chapters the remains of the theory of arterial atheroma; 2, to deny the existence of the prostatic adenoma; 3, to attribute the histologic changes in both prostate and bladder to chronic inflammation of these organs; and 4, to attribute prostatic atrophy and prostatic hypertrophy to similar inflammatory processes differently distributed.

A few quotations will illustrate Ciechanowsky's point of view, insomuch as it concerns us:

> I could never observe the changes in the epithelium which might be mistaken for neoplasmatic proliferation. By other authors two kinds of proliferation in this sense were described. The one is attributed to the fact that the epithelium becomes stratified, whereby the superficial cells which lie opposite the center of the glandular lumen lose their nuclei and become more polygonal and bigger than peripheral cells. The other is attributed to a sprouting of new, partly solid, partly hollow cell plugs, from which later on new glandular tubules are formed. In spite of very careful researches, neither the one nor the other kind of proliferation could I find in the enlarged prostate glands examined by me, provided that the preparation was cut sufficiently thin (not above 0.01=104 thickness). On the other hand, it is not hard to find such pictures as are described by Birch-Hirschfeld and Jores in thicker preparations, in which a few layers of cells were arranged above each other. . . . By using thin sections one can easily convince oneself that what was looked on as a new-formed glandular tubule by Birch-Hirschfeld and Jores is nothing but an altogether normal glandular branch, not yet enlarged by the accumulated pathologic contents. By similar technical mistakes the incorrect conclusion of the French investigators is to be explained, only with the difference that here the faulty observation was referred to the enlarged glandular acini. If such a glandular acinus be opened by a cut at its greatest diameter or near it, then its peripheral epithelial lining will be divided longitudinally, i. e., vertically, and will appear in its real form, i. e., as a single layer. But the case will be entirely different if the cut open a cystically enlarged gland near its wall parallel with and near a tangent surface. The part of the glandular wall divided by this forms a very shallow, dome-shaped sphere or cylindrical section. Then it may easily occur that the cut may not reach the lumen of the gland at all, but may lie in its whole extent in the epithelial lining. In such a section the peripheral epithelial cells are cut through at different heights; the ones lying in the middle are cut near the summit; the others lying near the periphery are cut near the base; that is, the part which contains the nucleus. Hence the cells lying in the middle of the section appear to have no nuclei, while those at the periphery have, and the whole gives the impression of a glandular acinus filled with proliferating cells. That this is so is demonstrated by the difference in size between the peripheral and the central cells, as mentioned by the French investigators, which difference is only apparent. . . .
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> From the foregoing it will be seen that we can not speak of a genuine neoplasmatic proliferation of the glandular tissue proper of the enlarged prostate; and, as the majority of the well-defined nodules that can be enucleated consist exclusively of the much-dilated glandular acini, I gave to these nodules, without searching for other names, the name of "pseudo-adenoma." . . . By an investigation of my cases, made as accurate as possible, I was convinced that in no one of them is the glandular tissue absolutely increased. The increase of the glandular tissue is only apparent, and arises wholly through the dilatation of the lumen. . . . It is easy to demonstrate the real and primary causes of the passive glandular dilatation in the changes localized in the stroma. In all the cases of "hypertrophy of the prostate" examined by myself I found, without exception, changes in the stroma adequate to explain all phenomena. These changes depend on a proliferative connective-tissue process.
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> . . . The common starting point of hypertrophy of the prostate gland and certain forms of atrophy must be sought in the productive connective-tissue processes, which have their seat in the stroma of the organ. . . . If the productive stroma changes localize themselves in the central parts of the prostate in the vicinity of the main excretory duct, then they may produce a narrowing or obliteration of the lumen of this duct, which may cause an accumulation of the secretion and an enlargement of the peripheral lobules. . . . The enlargement of the prostatic gland is nearly always to be referred to the dilatation of the acini; the relatively large masses of new-formed connective-tissue play a subordinate part in the pathologic growth of the prostatic gland. . . . If the connective-tissue changes in the stroma occupy mainly the periphery, and if they localize themselves in the neighborhood of the terminal branches of the tubules of the acini, then, by adhesion and atrophy of the compressed tubules and by shrinkage of the connective-tissue in the stroma—a prostatic atrophy—there will be produced a diminution of the whole organ.

From these observations, founded on an exhaustive study of diseased prostates, Ciechanowsky infers the very moderate and entirely justifiable conclusion that "the foundation for hypertrophy of the prostate gland and certain forms of prostatic atrophy, in my cases at least, consisted in chronic inflammatory processes, the etiologic relation of which to virulent gonorrhea is not sufficiently proven at present. Yet the great frequency of gonorrhea in general, the great frequency of chronic prostatic inflammation due to it after all acute inflammation has subsided, and more particularly the conspicuous similarity of my observations to the pathologic changes found in gonorrheal prostatitis, make it possible that such a relation exists. Ciechanowsky says:

"Whether gonorrhea really is the most frequent and important cause of hypertrophy of the prostate gland, will be the work of the future to decide."

The fundamental facts discovered by Ciechanowsky have been verified by Greene and Brooks[1] and by Crandon[2] and are doubtless accurate. But the conclusion of all these observers is a very direct imputation on the virtue and virginity of the hypertrophied prostate, an imputation anyone may well hesitate to concede, lest the passing years find him an unwilling witness to a gonorrheal past, caught, as it were, in his own claptrap.

Until now the busy practitioner has had no more reason to consider gravely the question whether prostatitis is the cause of prostatic hypertrophy than the every-day citizen has had to debate seriously the psychologic theory that man's actions are determined and he has no free will. In each case the *prima facie* evidence has been clearly against the theory. A man who does all his work under the implication that he may or may not

1. THE JOURNAL A. M. A., 1902, xxxviii, 1051.
2. Annals of Surgery, 1902, xxxvi, 813.

do it, as he will, can not be expected to look on himself as the passive instrument of blind fate; and, similarly, the practitioner of genitourinary surgery who encounters case after case of prostatic hypertrophy with clear urine and no history or evidence of inflammation of the urethra, can not be brought to see in urethritis the cause of prostatic hypertrophy, except by a theory as definite as Ciechanowsky's.

CLINICAL EVIDENCE.

But, since Ciechanowsky is so positive and since his demonstrations have been verified by competent, independent observers, it behooves us to set *prima facie* evidence aside, and to criticize carefully the seeming freedom from inflammation exhibited by so many cases of hypertrophy of the prostate. Thus clinical evidence may be amassed either for or against the theory.

It so happens that I have access to a set of case books running back to the early 60's, and affording a wealth of clinical material recorded entirely without partisan spirit, and detailing urethral histories for many years. From these case books I have been able to collect a number of histories bearing on the subject in question; and these I submit with the belief that this clinical evidence will aid us in interpreting the pathologic facts.

TABLE 1.—CASES OF PROSTATIC HYPERTROPHY, REAL AND SEEMING, PRECEDED BY CHRONIC URETHRITIS.

	Prostatitis Began at	Prostatitis Ended at	Symptoms of Prostatic Hypertrophy at	Incomplete Retention at	Duration of Prostatitis in Years.	Last Seen at	
1 Prostatitis	34	x	47	No	—	47	Congested.
2 Prostatitis	45	x	62	No	—	62	Normal at 58.
3 Stricture	38	45	No	No	7	55	A shade large.
4 Prostatitis	42	Con.	61	No	25	67	Large and tender at 60.
5 Stricture, Stone.	57	67	No	No	10	69	Not large; small adenoma.
6 Protatic abscess	31	Con.	Yes	Yes	26	57	Not large.
7 Prostatitis	42	x	62	62	—	62	Not large.
8 Stone	40	Con.	40	40	10	50	Not large.
9 Stricture	37	Con.	—	—	12	55	Middle lobe large.
10 Stricture	49—	Con.	—	—	2	51	Bar excised.
11 Stricture	62—	Con.	?	?	—	62	Double the normal.
12 Stricture	40	Con.	60—	60	20	60	Not examined.
13 Stricture	23	x	65	65	—	65	Normal at 48.
14 Stricture	25	Con.	65—	65—	40	65	Moderately large.
15 Prostatitis	?	x	53	55	—	67	Very large.
16 Stricture	39—	47	50—	51	8	68	Moderately large.
17 Contracture,	—	—	67	67	—	73	Moderate lateral hypertrophy.
18 Stricture	56—	?	69	69	—	73	Not examined.
*19 Stricture	45—	Con.	45	48	3	48	Not large at 45.
20 Stricture	27	Con.	44	44	28	55	Large at 50.
21 Stricture	50—	?	60	60	—	62	Moderately large.
22 Contracture,	—	—	56	56	—	62	Moderately large.
23 Stricture	58—	Con.	59	59	7	65	Enormous.
24 Prostatitis	16?	x	52	—	—	66	Not examined.
25 Contracture, Stone.	Yrs.	66	63	63	Yrs	69	Middle lobe.
26 Contracture,	66	68	66	—	2	70	Middle lobe.

x.—Several short attacks of prostatitis.
Con.—Prostatitis persists at the time of last observation.
*—This case is not included in Table 4, since it was not followed to the fiftieth year.

CHRONIC POSTERIOR URETHRITIS FOLLOWED BY PROSTATIC HYPERTROPHY.

Table 1 comprises all the cases I have been able to find in which there is the remotest possibility that a previous prostatitis might have been the cause of prostatic hypertrophy. These cases, 26 in number, may be divided in four classes: (1) Five cases (1 to 5) of chronic urethritis, in which the prostate was not clinically hypertrophied. Three of these (1, 2 and 4) show congestive symptoms of prostatic hypertrophy, but no residual urine, and at most are instances of possible beginning hypertrophy. In two others (3 and 5) there were no symptoms of hypertrophy, but the prostate is a little large in one and contains a small adenoma in the other. (2) Three cases (6 to 8) with partial retention, in which the prostate was certainly not large so far as examination without operation could reveal. These three cases were assuredly instances of contracture of the bladder neck. (3) Three cases (9 to 11) of deep stricture, so tight that prostatic symptoms were not revealed, but in which perineal section showed slight enlargement of the prostate. (4) Finally, there remain 15 cases (12 to 26) of large prostate which, with the three last mentioned, make 18 cases of known prostatic hypertrophy after more or less prolonged chronic urethral inflammation.

In cases 17, 22, 25 and 26 it is presumed, though not proven, that contracture antedated hypertrophy. (See detail of cases in Table 1 at end.)

These 18 cases were found among 433 case histories of hypertrophied prostate. Doubtless the number would have been larger had these 433 cases been more closely questioned as regards their early history; their fewness only enforces the well-known fact that, clinically, prostatic hypertrophy is not often associated with history or evidence of chronic urethritis.

However, it may be observed that, among the 433 cases, the degree of enlargement is noted in 192; 31 (16 per cent.) of which are stated to have been "very large" or "enormous." Curiously enough in the present series, the degree of enlargement is noted in 12 cases; 2 (16 per cent.) of which were "very large"; thus showing no deviation from the normal standard.

Again, it is interesting to observe the age at which the symptoms of hypertrophy first manifested themselves. In the 433 cases this occurred below 45 years of age in 3.2 per cent., while in the urethritis series only 1 (5.5 per cent.) began below the 45th year. In the larger series, 9.5 per cent. began below the 50th year; while in the urethritis series, 3 (16.6 per cent.) began before that time. Moreover, in the larger series, 14.1 per cent. began after the 70th year; while in the urethritis series, all began before that time. Thus the urethritis cases showed prostatic hypertrophy at a slightly earlier age than did the others.

CHRONIC POSTERIOR URETHRITIS NOT FOLLOWED BY PROSTATIC HYPERTROPHY.

But a more definite estimate may be obtained by looking on the picture from another point of view. To this end I have collected and tabulated 54 cases of chronic posterior urethritis from various causes, followed to an age varying from 50 to 83 years, and not associated with prostatic hypertrophy. These cases are arranged in two tables. Table 2 presents the observed data in 20 cases of deep stricture, 8 cases of chronic gonorrheal prostatitis and 4 cases of stone. In these cases the fact that the patients got entirely well under treatment must be accepted as evidence that they were not suffering from any symptoms of prostatic hypertrophy; otherwise these would have appeared as the symptoms if the urethral or bladder condition were controlled. Table 3 comprises 7 cases of stricture and 15 of contracture of the neck of the bladder. These cases were all operated on and the absence of prostatic hypertrophy proven by digital examination of the prostate.

These 54 cases cover very fairly every degree of duration and intensity to be looked for in chronic prostatitis, and are, of themselves, sufficiently numerous to prove that chronic prostatitis, severe or mild, in youth or in age, does not inevitably lead to prostatic hypertrophy.

TABLE 2.—STRICTURE AT THE BULB.

	Age and Nature of Cause.	Symptoms Began at	Dilatation Began at	Dilated from (Charriere Scale)	Total Duration of Prostatitis—Yes	Last Seen at
	Gon.	39	50	Fil.	11	50
*	Gon.	25	43	Fil.	25	50
	Gon.	42	42	21	9	51
*	22 Tr.	22	22		30	52
	Gon.	45	52	Fil.	7	52
	Gon.	Yrs.	53	15	Yrs.	53
	Gon.	. .	53	Fil.	. .	53
	20 Gon.	20	30	. .	10	55
	Gon.	. .	50	Fil.	6+	56
	28 Gon.	28	48	Fil.	20	57
	Gon.	36	47	Fil.	11	58
*	Gon.	30	46	Fil.	28	58
	30 Gon.	. .	60	15	. .	60
	Gon.	41	61	Fil.	20	61
	Gon.	. .	62	15	. .	63
	30 Gon.	. .	43	Fil.	20+	63
	33 Gon.	50	58	27	8	64
	Gon.	. .	65	21	. .	65
†	32 Gon.	32	32	15	33	65
	24 Gon. ♀	24	26	Fil.	14	83
	♂	39	51	Fil.		

†—Catarrhal prostatitis and occasional epididymitis at 32, 33, 37, 41, 43, 60, 61, 62, 63, 65.
Tr.—Trauma.
Gon.—Gonorrhea.
*—Prostatitis persists.
Fil.—Filiform or a very small bougie.

TABLE 2.—PROSTATITIS.

First Attack at Age.	Second Attack.	Third Attack.	Fourth Attack.	Duration of Prostatitis.	Present Age.
29–34	46–50	. .	. .	8 Yrs.	50
33	34	. .	. .	Short.	50
47–8	. .	. .	. .	1 Yr.	50
29	35	39	. .	Short.	52
54–5	. .	. .	. .	1 Yr.	57
36	37	39	44	?	60
37 52	. .	. .	. .	15 Yrs.	61
50–59	. .	. .	. .	9 Yrs.	70

STONE AND LITHOLAPAXY.

Symptoms Began at	Operation at	Duration in Years.	Present Age.
48	50	2	50
49	56	7	56
56	58	2	61
*53	68	15	68

*—Prostate atrophied.

TABLE 3.—CASES OF STRICTURE WITH EXTERNAL URETHROTOMY.

Date and Nature of Cause.	Symptoms Began at	Operation at	Duration of Prostatitis in Years.	Present Age.
18 Gon.	20	33	13	51
20 and 45 Gon.	45	55	10	55
Gon.	46	56	10	56
Gon.	37	39 and 57	19	58
30 Tr.	30	60	30	61
* O	19	56	37	68
* Gon.	30	71	41	71

CASES OF CONTRACTURE WITH EXTERNAL URETHROTOMY.

Date and Nature of Cause.	Symptoms Began at	Operation at	Duration of Prostatitis in Years.	Present Age.
33 Str.	33	53	20	53
45 Gon.	45	49	4	56
21 Gon.	21	57	36	58
. . . .	40	61	21	61
. . . .	53	63	10	63
. . . .	57	63	5	63
. . . .	64	66	2	66
. . . .	59	66	7	66
. . . .	Yrs.	68	.	68
. . . .	Yrs.	69	.	69
* Gon.	60	70	10	72
. . . .	Yrs.	72	.	72
. . . .	57	72	15	72
. . . .	70	72	2	72
. . . .	57	74	7	75

Tr.—Trauma.
Str.—Stricture.
Gon.—Gonorrhea.
*—Prostate atrophied.
♀—Congenital.

But a comparison of these 54 cases with the 18 cases that constitute the series of prostatic hypertrophy due to chronic urethritis, is even more striking. In order to make this comparison on a fair basis, I have proceeded as follows: Taking a certain age—50 years, for example—I have counted, 1, the number (2,164) of cases of all sorts recorded in these case books, in which the patient was observed at or after the 50th year; 2, the number (425) of these cases showing hypertrophy of the prostate; 3, the number (71) with a history of chronic prostatitis; and 4, the number (17) of these with hypertrophy of the prostate.

By comparing, on the one hand, the number of the cases with enlarged prostate to the total recorded cases, and, on the other hand, the number of cases of chronic urethritis with enlarged prostate to the total number of urethritis cases, one can arrive at a very fair idea of the influence of chronic urethritis in causing the prostate to hypertrophy. If this influence were great, we should certainly find the urethritis cases showing a far greater proportion of hypertrophied prostates than the general cases which came suffering from all manner of maladies. Singularly enough, this is by no means the case; for, as Table 4 shows, the percentage of hypertrophied prostates in the urethritis cases was not very different from the percentage in all cases. Thus at the 50th year, it stood 25 per cent., as compared to 19 per cent.; while at the 60th year, it stood 33 per cent., as compared to 39 per cent., and at the 65th and 70th years, had fallen relatively lower.

TABLE 4.—PROPORTION OF CASES SHOWING PROSTATIC HYPERTROPHY UNDER VARIOUS CONDITIONS.

	AGE.	50 Yrs. Per Ct.	55 Yrs. Per Ct.	60 Yrs. Per Ct.	65 Yrs. Per Ct.	70 Yrs. Per Ct.
	All cases	19.1	27.1	39.1	49	52.6
71	Urethritis; cases	25.3	33.3	36.7	50	57.2
38	Stricture cases	29	34.5	42.1	50	33.3
19	Contracture cases	21	22.2	25	25	28.6

For purposes of still further comparison, I have made similar investigations in the stricture cases, and in the contracture cases; these resemble the general results as nearly as may be.

To my mind the most surprising feature of these percentages is the fact that chronic urethritis seems to have so little effect on prostatic hypertrophy one way or the other. The cases are surely numerous enough to give a very fair degree of accuracy, and yet they do not seem to prove that chronic urethritis, whatever its nature, either causes hypertrophy of the prostate or prevents it, though, if anything, very prolonged and active chronic prostatitis causes atrophy rather than hypertrophy; for, in 32 cases, the prostatitis lasted more than ten years. Of these, 18 (75 per cent.) showed hypertrophy, while 4 (12.5 per cent.) showed atrophy of the prostate, and not a single one of them had a very large prostate. On the other hand, among the 39 whose prostatitis lasted less than ten years, none showed atrophy, 11 (28.2 per cent.) showed enlargement, and 2 of these were very large. Additional confirmation of this presumption is afforded by the absence of hypertrophy in old cases of chronic retention cystitis due to locomotor ataxia and other forms of bladder paralysis.

THE EFFECT OF EARLY GONORRHEA.

The argument which has thus far been followed cannot clinically be pursued much further. It is, I think, impracticable to draw inferences from the effects of short gonorrheas early in life to the prostatic hyper-

trophy of later years. The statements of patients are, of course, notoriously misleading; and yet it is generally conceded that fully 75 or 80 per cent. of adult males have gonorrhea in early life, and that fully 60 per cent. of these have posterior urethritis. Inasmuch as less than 20 per cent. of those who pass their 55th year have prostatic hypertrophy, one certainly can not infer any very direct connection between the two. To assume that the early gonorrhea produces the hypertrophic change of later life would be to assume something that proves too much. There are not enough hypertrophied prostates to go round.

Additional evidence against such a view—if additional evidence is needed—is also afforded by the fact that prostatic hypertrophy occurs with such uniformity at a definite period of life, which may be called the beginning of the decline. In exceptional instances—indeed, in 3 per cent. of my cases, for instance—the symptoms of prostatic hypertrophy appear before the 45th year. Yet the overwhelming majority (91 per cent.) do not cause trouble until after the 50th year. Yet to assume that the prostatitis found by Ciechanowsky and his followers takes twenty or thirty years to produce its effects is assuming too much for our credence until some direct evidence shall be brought to support such a theory. (See note at end of article.)

Thus it would seem that Ciechanowsky's theory is entirely lacking in clinical support. This is not saying that it is untrue. Yet we must conclude from the clinical facts that the prostatitis which causes prostatic hypertrophy is not clinically diagnosticable. Either it is a spontaneous process so mild as not to form a clinical entity and occurring spontaneously in middle life (some confirmation of such a view may be found in the spontaneous attacks of catarrhal prostatitis to which middle-aged men with normal prostates are undoubtedly liable); or, on the other hand, it may be that the inflammatory cause of prostatic hypertrophy is early gonorrhea; but that the prostate does not hypertrophy in a greater number of cases after early gonorrhea is due either to the fact that the gonorrheal process does not obstruct the prostatic ducts in all cases, or that the cases which do hypertrophy do so from an inherited predisposition.

There is some clinical reason to believe that prostatic hypertrophy tends to run in families; but I have no clinical data either to confirm or to deny such a belief. In fact, the object with which these cases are narrated is to show that, whatever this theory of Ciechanowsky's may mean, and whether or not subsequent investigations prove it to be accurate, chronic prostatitis, as seen by the clinician, is certainly not the adequate cause of prostatic hypertrophy, and we are by no means bound by Ciechanowsky's theory to believe that every man with hypertrophy of the prostate has had gonorrhea.

CASES OF HYPERTROPHY OF THE PROSTATE, REAL AND SEEMING, PRECEDED BY CHRONIC POSTERIOR URETHRITIS.

CASE 1.—Oct. 18, 1882. C. K., age 34, complains of painful and frequent urination, and irregularly by day. The urine is acid, sp. gr. 1027; trace of albumin; much pus and many oxalate-of-lime crystals. Urethra very hyperesthetic throughout. Anterior urethra admits 17 F. with difficulty. March 24, 1883. Internal urethrotomy to 30 F. Aug. 18, 1883. No further urinary symptoms. Oct. 20, 1885. Symptoms relapse. Instillations of nitrate of silver. May 4, 1886. Two instillations cured him; now a little irritated again. Dec. 12, 1895. Urine sparkling; sp. gr. 1022; no albumin. He gets up at night to urinate and overflows a few drops toward evening; prostate very sensitive to massage and not notably enlarged. Install nitrate of silver.

CASE 2.—Aug. 6, 1892. P. H., aged 56. Gonorrhea eleven and four years ago; short attacks; has had a slight gleet for a year past; cured by instillations of silver nitrate and copper sulphate. Dec. 8, 1894. Hypogastric pain when the bladder is full; no frequency of urination; urine full of pus; bladder empties itself; prostate normal. Cured in four months by sulphate of copper. Dec. 5, 1895. Relapse from exposure to cold. May 13, 1898. Another relapse. Urethra 9 inches; residuum ½ ounce. Cured by sulphate of copper.

CASE 3.—July 6, 1893. R. P., age 45. Had acute retention from stricture seven years ago and again now. The stricture has not been dilated; only a filiform passes the bulb. Nov. 11, 1893. Dilated to 27 F. Dec. 19, 1903. Has used no sound since; had retention eighteen months ago, again last summer and now. Filiform again goes. January 20. Dilated to 27 F. Urethra 8 inches; prostate only a shade large; no residual urine. The symptoms have been entirely relieved.

CASE 4.—March 12, 1891. J. S., age 57. Gonorrhea fifteen and five years ago, and last spring. Has had a relapsing gleet since the first attack; urine purulent; prostate normal. June 22, 1894. Prostate large and tender as the result of a sexual strain. Aug. 13, 1895. Rises once at night; the stream starts with difficulty. Jan. 9, 1901. Hemosperm; no vesical or urethral symptoms.

CASE 5.—April, 1900. V. B., age 67. Traumatic stricture twenty years. The perineum is now riddled with fistulæ. Perineal section by Dr. Keyes, Sr. Dec. 1, 1902. Symptoms of stone for one year. Perineal section by Dr. Chetwood; stone removed; prostate incised and small adenoma shelled out. The prostate was not enlarged.

CASE 6.—May 26, 1894. A. C., age 57. After a gonorrhea in 1868 a perineal abscess developed and burst; the fistula remains open. He urinates every two hours and passes a 26 F. catheter once or twice a day. The urine is but little purulent; residuum ½ ounce; prostate not large.

CASE 7.—Aug. 2, 1884. G. L., age 43. Had gonorrhea for three months a year ago; now has an attack of simple urethritis three weeks old; uses sounds. Feb. 23, 1886. Has passed the sounds for two years and been well; now a slight urethritis; sounds and nitrate of silver instillations. June 26, 1890. Urinates once at night and every hour or two by day. The prostate is a little large; no stone; no stricture. July 16, 1894. Acute gonorrhea. March 6, 1895. Well. June 5, 1900. Urgent urination; urine turbid; thallin instilled. June 13. Urine clear; urgency relieved. Dec. 25, 1903. Rises two or three times at night; urethra 8 inches long; residuum 1 ounce; urine clear; prostate not large.

CASE 8.—Sept. 6, 1892. B. G., age 40. Frequent and painful urination by day. September 8. Litholapaxy; a small urate stone removed; retention followed the operation. November 5. Slight prostatitis persists; residuum 3 ounces. March 4, 1897. Urine still purulent; left pyelonephritis; doubtless calculous. April 20, 1900. Urine shows pus and albumin; residuum 1½ ounces; prostate not large. March 24, 1902. Urethra 7½ inches; residuum 1½ ounces. Searcher finds a bar at the neck of the bladder; prostate not large; pus and albumin persist.

CASE 9.—October, 1890. A. J., age 55. Traumatic stricture eighteen years. Complete retention; abscess; perineal fistula last year. Perineal section without a guide. Stricture divided and rather large prostatic median lobe incised by Dr. Keyes, Sr. Relief was afforded immediately.

CASE 10.—July 17, 1899. C. R., age 51. Chronic complete retention for two years; impassable stricture at the bulb. Perineal section by Dr. Keyes, Jr.; stricture divided; prostatic bar incised and a little adenomatous tissue torn away with rongeur. Complete relief.

CASE 11.—April 18, 1890. E. A., age 62. Has been urinating every two hours, day and night, since la grippe a month ago; urine purulent and albuminous. He has suffered from stricture for many years. Only a filiform enters the deep urethra. Prostate is about double the normal size, symmetrical and soft. May 11. Dilated to 23 F. There is renal suppuration.

CASE 12.—June 4, 1888. P. H., age 60. Has suffered from

stricture for twenty years. Now 9 F. enters the deep urethra with difficulty. Urine full of pus and albumin. He passes 1 ounce and the catheter draws 7 ounces. Prostate not examined.

CASE 13.—Dec. 5, 1871. J. B., age 48. Short gonorrhea twenty-five years ago; slight gleet now for a few months; 21 F. grasped in bulbous urethra; dilated gradually to 30 F. Prostate is normal. March 8, 1888. A little irritability of the bladder. Urine purulent; residuum 4 ounces; no trace of stricture. May 25. Has been through an acute retention and a sharp attack of urethral fever. There is kidney suppuration; prostate not examined.

CASE 14.—Dec. 6, 1903. B. N., age 65. The bladder has been irritable and there has been slight gleet since a gonorrhea in the 60's. Progressive dilatation has relieved the gleet, but he still urinates twice at night and every two hours by day. Residuum 2 ounces; urethra 7¾ inches; prostate moderately large, rather hard; left lobe larger than the right.

CASE 15.—Aug. 30, 1866. H. L., aged 55. Three or four short gonorrheas in early life. Two years ago acute retention relieved by diuretics. Four days ago second attack, only partially overcome. Prostate a little large; urine slightly purulent; catheter. Jan. 4, 1869. Has continued to use catheter two or three times a week, occasionally passing it more frequently when retention threatens. The prostate is, if anything, smaller; the urine is still hazy; 25 F. grasped; dilatation. March 7, 1876. He has continued to use a 27 F. sound. This has entirely cured him and relieved all his prostatic symptoms. He has now been well for two years. Nov. 21, 1877. Relapse. Urinates three or four times at night; urine purulent again. Prostate three times its natural size; residuum about 4 ounces. Oct. 16, 1878. Irritability and obstruction increasing; urine begins to smell.

CASE 16.—Nov. 8, 1870. S. F., age 39. Is passing 21 F. for a deep stricture; dilatation instituted. June 7, 1871. Uses 30 F. every ten days. Dec. 15, 1871. Acute posterior urethritis; cured in a few days. March 7, 1878. Urination painful; 26 F. grasped. April 4, 1878. Passes 33 F. May 11, 1882. Urine a little hazy; residuum 2 drams. The urine has been purulent for some time past; he urinates every three hours by day and rises once at night. May 5. Residuum 1 ounce. Jan. 17, 1885. Internal treatment is holding him, but not curing him; residuum 1 ounce; little pus. Nov. 6, 1899. After various treatments the condition has remained about the same. The urine is still purulent; the residuum varies from ½ to 1½ ounces; he urinates every few hours by day and several times at night. Prostate moderately large.

CASE 17.—Oct. 22, 1902. R. M., age 72. Has had partial retention for five years; residuum now 3 ounces; prostate the size of a mandarin orange. Perineal section; galvano-prostatotomy. Lateral lobes moderately enlarged; contracture of the neck of the bladder.

CASE 18.—April 22, 1873. J. B., age 56. Frequent and painful urination for some time past; 6 F. enters the deep urethra, but is grasped. Dilated to 30 F. in three months. May 12, 1886. Has continued to pass the sound twice a year. Frequency and pain have returned within the last few months; urine hazy with pus; residuum 5½ ounces; 23 F. finds several ridges along the urethra. Prostate not examined. Oct. 26, 1890. All well but for a relapsing gleet.

CASE 19.—Sept. 24, 1864. M. G., age 45. Denies gonorrhea, but has had Lallemand cauterization of the deep urethra for frequent emissions. For the past few months he arises three or four times at night to urinate, and is very constipated. Prostate not large; deep urethra sensitive; 15 F. grasped in the bulbous urethra. Feb. 18, 1865. Now takes 21 F. and arises but twice at night. July 31, 1867. 21 F. draws blood; his symptoms have returned; urine is hazy with pus. October 25. Slight improvement; catheter introduced for the first time; it draws 8 ounces; prostate not examined.

CASE 20.—Aug. 16, 1869. H. E. B., age 41 years. Urinates every two hours by day and every three hours by night with some distress. Urine purulent. This trouble dates from a gonorrhea in 1855, and is worse since a second gonorrhea two years ago; 15 F. grasped in the deep urethra; 21 F. grasped in the pendulous urethra. August 20. Internal urethrotomy of anterior stricture. August 24. 23 F. enters both strictures. Sept. 3, 1873. 21 F. still goes; urine purulent; residuum 2 ounces; prostate not enlarged. Feb. 12, 1878. Chronic complete retention; left seminal vesicle distended; prostate not large. Dec. 23, 1878. Distinct enlargement of prostate; urine almost clean. Oct. 19, 1883. Retention persists; urine quite clear.

CASE 21.—Oct. 10, 1889. A. M., age 62. Twelve years ago acute retention after voluntarily holding his urine a long time. A stricture was discovered and he was cured by sounds. He had a swelled testicle during the treatment. Second acute retention two years ago; since then he has used the catheter constantly. There is a distinct stricture at the bulbo-membranous junction; grasps 21 F. Residuum 8 ounces; prostate symmetrically large to a moderate degree; urethra 8 inches long; urine purulent.

CASE 22.—July 22, 1903. J. T., age 62. Dysuria five years. Chronic complete retention one year. Relapsing swelled testicle. Vasectomy. December, 1903. Perineal galvano-prostatotomy; slight general prostatic enlargement and contracture of the bladder neck. The urinary septicemia was not relieved by operation, and he died some six weeks later.

CASE 23.—Nov. 30, 1896. A. B., age 58. Has suffered from chronic posterior urethritis for some time. The urine is purulent throughout. He urinates four times at night and oftener by day. Urethra is extremely oversensitive. A 17 F. rubber catheter is grasped in the membranous urethra; the prostate is twice its normal size, soft and not tender. March 27, 1897. Greatly improved by sounds up to 29 F. Dec. 15, 1897. Has had two chills and his urinary frequency has returned. Residuum 2 ounces; urine purulent. Nov. 22, 1898. Almost well again. Uses sounds and nitrate-of-silver wash once a week. Jan. 27, 1904. Now has depended entirely on his catheter for two years; pus and hyperesthesia much the same. Urethra 9 inches; prostate very large, as big as an orange.

CASE 24.—Sept. 5, 1872. L. R., age 54. Gonorrhea at 16 and at 35; a prolonged gleet after the second attack. Two years ago had an attack of frequent and painful urination, cured by diluent waters. Now a second similar attack; residual urine 1 pint; catheter life instituted; prostate not examined. Feb. 27, 1884. Has continued to depend on catheter.

CASE 25.—July 15, 1891. M. D., age 63. Chronic complete retention for many years. Symptoms of stone for four years. Suprapubic cystotomy by Dr. Keyes, Sr.; phosphatic stone removed and a finger-like third lobe torn away. June, 1894. Retention not entirely relieved and stone has reaccumulated. Perineal section by Dr. Keyes, Sr.; phosphatic stone removed; neck of the bladder incised; prostate normal. December, 1897. Patient has remained well and empties his bladder entirely.

CASE 26.—Nov. 12, 1900. R. S., age 68. Urinary symptoms for two years; now depends on catheter and has been bleeding for the past six months. Perineal section by Dr. Chetwood; galvano-prostatotomy. The bladder neck is so tightly contracted as not to admit the tip of the finger. Median lobe the size of the last joint of the thumb; this is incised. Oct. 18, 1902. Became and remained well.

SUMMARY.

To sum up, the following conclusions very fairly express my views:

1. Among 433 cases suffering from prostatic hypertrophy, only 18 show clinical evidence of previous prostatitis.

2. These 18 present no marked difference in point of size of the prostate, or of beginning of the disease to differentiate them from the remaining 415.

3. Comparison of these 18 cases with 54 cases of chronic prostatitis without hypertrophy shows that the proportion of such cases suffering from prostatic hypertrophy varies little from the normal.

4. Prostatitis lasting more than ten years probably

tends to produce prostatic atrophy rather than prostatic hypertrophy.

5. Therefore, if it is true that hypertrophy of the prostate is pathologically referable to inflammation, the clinical data suggest that this inflammation is either early gonorrhea of relatively brief duration or some obscure sclerotic process associated with advancing years.

6. The late date at which prostatic hypertrophy begins and its infrequency, compared with that of early gonorrhea, make it seem clinically most improbable that early gonorrhea is the cause.

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NOTE.—Since writing these lines I have read an article by Rothschild (*Centralbl. f. krank. d. Harn. u. Sex.-Organe*, 1904, xv, 177) founded on the examination of thirty prostates removed from cadavers of patients who died between the ages of 34 and 52 without evidence or history of disease of the urinary organs. In 27 of these he found changes similar to those described by Ciechanowsky in hypertrophied prostates and by Finger in gonorrheal prostates. Hence he infers (1) that the foundation of prostatic hypertrophy is laid down years before the gland actually begins to enlarge, and (2) that gonorrhea is at least the usual cause of prostatic hypertrophy; yet Rothschild's cases were selected by strict exclusion of all that showed history or macroscopic evidence of any lesion of the urinary channels. It is to confirm or reject such hypotheses as these that clinical facts are needed.

AN ANALYSIS OF 1,000 CONSECUTIVE CELIOTOMIES FOR DISEASED CONDITIONS IN THE FEMALE PELVIS.

A PRELIMINARY REPORT.

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CHICAGO.

In December, 1903, I completed a series of 1,000 consecutive gynecologic operations involving an opening into the peritoneal cavity, representing the work of about five and a half years in Montreal and Chicago. About 14 per cent. were performed during my service in the Royal Victoria Hospital, Montreal, and 85 per cent. in the Presbyterian Hospital, Chicago, the remainder being in other hospitals. The operations do not include abdominal sections for diseases of nonpelvic viscera except in so far as these were undertaken in association with procedures carried out primarily for pelvic disorders; 807 operations were abdominal, 190 operations were vaginal, 3 operations were begun through a vaginal and completed through an abdominal incision.

The following list indicates the various intraperitoneal procedures which were carried out:

Unilateral salpingo-oöphorectomy	186
Bilateral salpingo-oöphorectomy	80
Unilateral oöphorectomy	45
Unilateral ovarian resection	147
Bilateral ovarian resection	120
Unilateral resection of fallopian tube	11
Bilateral resection of fallopian tube	10
Unilateral removal of fallopian tube	45
Bilateral removal of fallopian tube	13
Unilateral removal of ovarian and broad ligament tumors	61
Bilateral removal of ovarian and broad ligament tumors	15
Ignipuncture of ovary	30
Suspension of uterus	180
Webster's round ligament operation	112
Ferguson's round ligament operation	18
Various other round ligament operations	6
Fixation of uterus, ventral (18), vaginal (6)	24
Myomectomy	40
Hysterectomy for fibroids	103
Hysterectomy for malignant disease of uterus	45
Hysterectomy for infective disease of uterus and adnexa	65
Hysterectomy for procidentia	24
Breaking up of adhesions, irrigation or drainage in peritonitis	52
Opening of abdomen in diffuse tuberculous pelvic peritonitis	15
Exploratory incision	21
Removal of ectopic gestation	14
Removal of round ligament cyst	1
Cesarean section (abdominal)	7

In about 90 per cent. of these cases preliminary curettage was performed. In about 70 per cent. various other operations were carried out at the same time, such as dilatation of the cervix, amputation of the cervix, colporrhaphy, repair of perineum, etc.

The above operations were complicated by the following procedures:

Appendectomy	135
Fixation of kidney	37
Removal of diseased kidney and ureter	2
Repair of separated recti muscles in enteroptosis	83
Repair of inguinal hernia	6
Repair of femoral hernia	3
Repair of ventral hernia	12
Removal of calculi from the biliary tract	5
Suspension of prolapsed sigmoid flexure, cecum or stomach	30

MORTALITY.

Death occurred as the result of operation in 19 cases, making a percentage of 1.9. Excluding two cases in which obstetric complications existed, the mortality was 1.7 per cent.

The following is a statement of the fatalities:

1. Case of a woman in whom rupture of the pregnant uterus had occurred after repeated attempts at delivery by forceps and version had been made. When the patient was admitted to hospital she was almost pulseless. On performing abdominal section, the fetus was partly within the peritoneal cavity and a large intraperitoneal extravasation of blood had taken place. The fetus and blood were removed and hysterectomy carried out. The patient rallied after the operation, but died the next day.

2. Case of a woman in advanced pregnancy, with large fibroids of the uterus. Porro-cesarean section was performed with great difficulty, the loss of blood being extreme. The patient died within half an hour of the operation.

3. Case in which suspension of the uterus and kidney fixation had been performed. After the operation she recovered and ran a normal course. On the eleventh day, while eating a meal in the semi-recumbent position, she suddenly became cyanosed and died. No autopsy was obtained and the cause of death was believed to be pulmonary embolism.

4. Case in which vaginal panhysterectomy for infective disease in the uterus and adnexa had been carried out. The patient developed extreme pulmonary edema after the operation and died on the third day, markedly cyanosed.

5. Case of abdominal panhysterectomy for fibroids. The patient died of pneumonia on the fifteenth day after operation.

6. Case of abdominal double salpingo-oöphorectomy for hematosalpinx and ovarian abscess. The operation was difficult and prolonged and death occurred about ten hours after operation.

7. Case of tubal pregnancy, in which rupture had taken place, followed by the escape of a large quantity of blood into the peritoneal cavity. The operation was difficult and the loss of blood was so great that the patient died in the afternoon of the operation.

8. Case of appendage tuberculosis in which a communication existed between the sigmoid flexure and a pus tube. Removal of the appendages and resection of two inches of sigmoid flexure was performed, the operation being prolonged. There was much shock after the operation and death occurred the next day.

9. Case of removal of two large ovarian cysts developing extraperitoneally. Death took place on the sixth day as the result of sepsis.

10. Case of abdominal hysterectomy for large fibroids of the uterus. Death took place from sepsis on the sixth day.

11. Case in which resection of both tubes and ovaries and suspension of the uterus was performed. Death occurred on the sixth day from sepsis.

12. Case in which suspension of the uterus, myomectomy, repair of ventral hernia and fixation of kidney were carried out. Death on fourteenth day from sepsis.

13. Case in which right salpingo-oöphorectomy, left salpingectomy, left ovarian resection, suspension of the uterus and repair of ventral hernia were carried out. Death on sixth day from sepsis.

14. Case in which salpingo-oöphorectomy and appendectomy were carried out. The tubes contained pus and there was septic peritonitis. The patient died of sepsis.

15. Case in which a large infected ovarian cyst communicating with the small intestine was removed. Septic peritonitis was present. Death from sepsis occurred in 32 hours.

16. Case in which pus tubes and diseased appendix were removed, septic peritonitis being present. Death took place from sepsis.

17 and 18. Cases similar to above. Death occurred.

19. Case in which the patient died on the operating table from failure of respiratory and cardiac activity due to the anesthetic, ether.

It thus appears that death took place in five patients as the result of the shock of operation or loss of blood, in two patients from pulmonary non-septic complications and in ten patients from septic peritonitis.

Of the patients dying from sepsis five had septic peritonitis at the time of operation and five presented no indication of sepsis.

In the total list of 1,000 cases it is therefore evident that a fatal result caused by infection during operation occurred only five times, representing a mortality of ½ per cent.

Studying the mortality in relation to various groups of operative procedures the following facts are noted:

1. HYSTERECTOMY:
   a. For fibromyoma of uterus—
   Vaginal hysterectomy .....31 cases, no deaths
   Abdominal panhysterectomy .....36 cases, 1 death
   Abdominal supravaginal hysterectomy .....36 cases, 1 death
   Total number of hysterectomies 103, with a mortality slightly below 2 per cent.
   b. For infective disease of uterus and appendages—
   Vaginal panhysterectomy .....33 cases, 1 death
   Abdominal panhysterectomy .....32 cases, no deaths
   Total number of hysterectomies 65, with a mortality of about 1.7 per cent.
   c. For malignant disease of uterus—
   Vaginal panhysterectomy .....40 cases, no deaths
   Abdominal panhysterectomy ..... 5 cases, no deaths
   d. For procidentia at or after the menopause—
   Vaginal hysterectomy, combined with anterior colporrhaphy and colpoperineorrhaphy .....24 cases, no deaths
   Total number of non-obstetrical hysterectomies 237, with 3 deaths, being a mortality of about 1.27 per cent.
2. CESAREAN SECTION (ABDOMINAL):
   Conservative operation ..... 2 cases, no deaths
   Porro-Cesarean ..... 5 cases, 2 deaths
3. REMOVAL OF OVARIAN AND BROAD LIGAMENT TUMORS:
   Abdominal operation .....76 cases, 2 deaths
   Being a mortality of 2.64 per cent.
4. WEBSTER'S ROUND LIGAMENT OPERATION:
   Abdominal .....104 cases, no deaths
   Vaginal ..... 8 cases, no deaths
5. SUSPENSION OF THE UTERUS:
   Uncomplicated by procedures other than curettage ..... 26 cases, no deaths.
   Complicated with other procedures..158 cases, 4 deaths
   Total number of cases 180, with 4 deaths, being a mortality of 2.22 per cent.
6. MYOMECTOMY:
   Vaginal ..... 3 cases, no deaths.
   Abdominal ..... 37 cases, 1 death.

In the operation on the patient that died, suspension of the uterus, repair of ventral hernia and fixation of the kidney were also carried out. This death has also been included in the list of those occurring after suspensio uteri.

7. SALPINGO-OÖPHORECTOMY FOR INFECTIVE DISEASE:
   Unilateral 186 cases, bilateral 80 cases.
   Vaginal ..... 3 cases, no deaths.
   Abdominal .....263 cases, 7 deaths.

In four of the patients who died septic peritonitis was present. In one resection of the sigmoid flexure was carried out; in four appendectomy; in one suspension of the uterus, ovarian resection, salpingectomy and repair of ventral hernia. One of these deaths is also included in the list of those occurring after suspension of the uterus, another in those mentioned in connection with ovarian resection and another in connection with salpingectomy.

8. OVARIAN RESECTION:
   Unilateral 147 cases, bilateral 120 cases.
   Vaginal ..... 3 cases, no deaths.
   Abdominal .....264 cases. 1 death.

In the operation on the patient who died the tubes were resected and the fatal infection was probably of salpingeal origin. This death is also included in the list of those following resection of the tubes.

9. RESECTION OF THE FALLOPIAN TUBES (ABDOMINAL):
   Unilateral ..... 11 cases, no deaths.
   Bilateral ..... 10 cases, 1 death.

In the patient who died resection of the ovaries and suspension of the uterus were also carried out. This death is also included in the list of those occurring after these operations.

NOTES.

Stitch abscess in the parietes developed in about 6 per cent. of the abdominal sections. The largest percentage occurred in a series of cases in which I employed buried chromic gut for the fascia and muscle.

In more than 98 per cent. of cases the abdominal incision was mesial; in less than 2 per cent. it was made vertically through a rectus muscle.

Drainage of the pelvis was carried out after the vaginal operations in about 4 per cent. of cases, being chiefly those in which removal of infected adnexa was performed with difficulty, complicated with the escape of pus regarding whose sterility there was doubt.

After abdominal section drainage through the abdominal incision was employed in about 1.3 per cent. of cases and vaginal drainage in about 6 per cent. In about 90 per cent. of abdominal operations normal saline solution was left in the peritoneal cavity at the time of closure of the incision.

In five cases local pelvic suppuration followed abdominal operation, necessitating the removal of pus through the vagina.

Only three patients have reported the development of hernia in the line of the abdominal incision after operation. In each of these there had been suppuration in the parietes during healing.

The bladder was accidentally opened only twice, once in the removal of a carcinomatous uterus by the vaginal route, once in the performance of abdominal hysterectomy for uterine fibroids. In each instance the wound was closed with continuous catgut suture and was followed by normal healing.

In no instance was there any accidental injury of the ureter or iliac vessels.

In thirty-five cases the separation of adherent intestine caused injury to the wall of the bowel to such an extent that closure of the wounded areas with catgut suture was necessary.

MEDIAN PERINEAL PROSTATECTOMY.*

GEORGE GOODFELLOW, M.D.
SAN FRANCISCO.

We are to discuss to-day some methods of operative medicine for the relief of symptoms caused by a disease concerning which, in the entire field of medicine, none other has had so many and such diverse modes of treatment recommended, i. e., enlarged prostate. To do more would require time not at our disposal; however, a scant anatomic and physiologic descriptive outline of the operative field seems requisite.

The prostate is usually described as a pear-shaped gland about the size of a horse-chestnut, with base directed upward toward the bladder, the apex downward and forward, with two lateral lobes and two commissures, the anterior joining the lateral lobes in front of, and the posterior—the lobulated portion of which is known as the third lobe—joining the lateral lobes behind the urethra. The first portion of the urethra with its musculature passes between the lobes of the prostate from base to apex behind the anterior commissure. The prostate is made up of muscular, glandular and connective tissue elements. The musculature is composed of a longitudinal layer from the urethra and from the cir-

* Read at the Thirteenth Annual Meeting of the Western Surgical and Gynecological Association, held at Denver.

cular layer of the bladder. The connective tissue of the gland spreads out to form the capsule. There is also a fascial sheath from the posterior layer of the triangular ligament surrounding the prostate which helps to form the pubo-prostatic ligament. To this has been given the name of prostatic capsule also. Anteriorly are the pubes; below and behind are the margins of the levatores ani, the rectum and the ejaculatory ducts. Whether the prostate has a true capsule or not is disputed. Walker, in his monograph on "Anatomy of the Prostate," seems to demonstrate that there is a capsule, and in the operations which I have had the good fortune to see made by others a capsule appeared to exist, but in all my operations I have been unable, not seeing the gland, to demonstrate conclusively to myself any such thing as a true capsule. The uses of the gland are uncertain, but are presumed to be connected with the sexual function, the secretion imparting motility to the spermatozoa. With the exception of malignant growths, enlargements of the prostate are usually physiologic until they become pathologic by obstructing the flow of urine. The causes ascribed for the enlargement are many, but none are satisfactory. The mechanism of the obstruction is now being studied; that is to say, the manner in which the prostate interrupts the flow of the urine. Presumably it does so by elevation of the vesical outlet and limiting vesical movement.

From time immemorial the prostate gland has been the seat of various ailments, the symptoms of which have been of more than passing interest, not alone to those afflicted therewith, but to those members of the "healing art" whose good or bad fortune it has been to treat them. Hippocrates says: "And when the belly is not hot nor the neck of the bladder very much contracted, all such persons pass water freely and no concretions form in the bladder; but those in whom the belly is hot, the bladder must be in the same condition, and when preternaturally heated, its neck becomes inflamed; and when these things happen the bladder does not expel the urine." The difficulty of urinating in the old (men) is also noted in various others of the early writers, and remedies suggested. Not until the past decade, however, have adequate remedial measures been devised; at least none that could offer more than the usual problematical results of all serious surgical operations. The catheter, with all the sufferings attendant, seemed to be the only means for producing euthanasia. Gradually, however, out of the chaos of operative methods recommended has been evolved a procedure which may be relied on as essentially curative in almost every case, at least should have no mortality as a result of the operation, i. e., removal of the gland through the perineum. The earliest modern mention known to me of the removal of the prostate per perineum is by the late Sir William Ferguson, who, in cutting for stone, said that he removed unintentionally the lower part of the prostate as readily as if it had been a stone. The patient not only recovered from the operation, but never afterward showed any signs of prostatic irritation.

Mr. Cadge reported a case where, during a lithotomy, he removed in the forceps between the joints of the blades, with no after complications, three masses which were found to be fibrous outgrowths of the prostate. Dr. C. Williams also mentions a case where he accidentally extirpated, between the forceps, an enlarged middle lobe of the prostate. In three weeks the patient was reported as recovered, seldom urinating more than once in the night. In all probability these cases were complete removals.

Following these inadvertent and unpremeditated partial or complete extirpations of the prostate numerous methods have been advised and practiced, chief among them being suprapubic and perineal section, respectively; the two combined; castration, single or double; vasectomy; puncture per rectum and through perineum; internal incision with divulsion, and division with electric knives. Systematic suprapubic prostatectomy was performed by Belfield and McGill in 1887; a perineal operation on the prostate was made by von Dittel in 1889, he removing a wedge-shaped portion from the under surface of one or both lateral lobes, through an incision extending from the median raphe round the sphincter and to the tip of the coccyx, the urethra and bladder being left intact. Nicoll, in 1894, made a combined suprapubic and perineal cystotomy, removing the prostate through the perineum. Alexander, about the same time, made a similar operation differing in slight details. About this time E. Fuller modified the McGill operation, as did also Keyes, who opened the membranous portion of the urethra and drained through the perineum. Division of a median obstruction of the gland was performed by Bottini by means of the galvano-cautery introduced through the urethra, or through a perineal urethrotomy as done by Wishard.

At the fifty-third annual meeting of the British Medical Association, in 1885, Reginald Harrison recommended the perineal route for exploration and incidental removal of tumors of the bladder. The perineal work which has been done during the past few years by various surgeons is familiar to all of you and I shall not delay by detailing it, as some of those gentlemen are present to speak for themselves. During the latter '80s I operated suprapubically and had what could be called good results, but the outcome—as I presume was the experience of most of those who adopted that method—was not satisfactory.

In 1891 I made a pure perineal prostatectomy, the first, so far as known to me, deliberately devised and carried out. Having in my student days and early professional life seen, assisted in, and made a considerable number of perineal stone operations, the technic followed was simply that of a median lithotomy, the steps of which, I presume, are unnecessary to detail, although to make clear the method followed I shall outline them. If required, a few days before the operation, urotropin in seven or ten grain doses are given twice or three times daily. No preliminary irrigation of the bladder is made. The usual pre-operative procedures are carried out, thorough cleansing, external and internal, the rectum being emptied by an enema a few hours before the operation. With the patient in the ordinary lithotomy position, the legs held by assistants, the bladder being empty or full, as the case may be, a lithotomy staff is introduced, the legs then elevated somewhat, a median incision from the base of the scrotum to the margin of the anus is made, and carried to the membranous urethra, which is entered with a straight lithotomy knife and the opening extended *into* the bladder. The finger is then introduced *into* the bladder, the staff removed, and the moderate flexion of the legs and thighs on the abdomen and the thorax increased to as great an extent as possible; then with the opposing hand over the hypogastrium the bladder is depressed, and the enucleation, beginning at the beak of the prostate below and working upward next to the bladder, or from above on either side downward, is carried on, the time consumed for complete enucleation rarely being over five or ten min-

utes, the resulting hemorrhage being virtually nothing. The gland may be removed entire or lobe by lobe. If the bladder has been full of pus sometimes it is washed out. No drainage of any kind, gauze, tube or catheter, is made, the perineal incision sufficing. In my earlier cases the practice was to pass a straight sound through the perineal wound into the bladder every other day for a week or more to keep free drainage, and in any complicated cases such course might still be adopted; but of late it has not been found needful. In all recent cases no instrumentation of any kind has been permitted, neither irrigation (except at time of operation), passage of sounds nor catheters; and all have done as well or better than under the older process. The patients are allowed to get up as soon as they feel like so doing, and the urethra is generally closed within eighteen to twenty-four days. Frequently some urine passes naturally within forty-eight to seventy-two hours, the quantity increasing as the wound closes, until all is voided by the urethra. What becomes of the prostatic urethra? has been asked. The answer is that part or all is removed with the gland, an incident that in no manner seems to affect the restoration or continuity of the urethra, nor the power of the bladder to regain and control its functions; nor is stricture or occlusion caused. The seminal ducts are not ligated, for this seems to me an irrational refinement, especially as many of my patients have (so they say), to a greater or less extent regained sexual vigor.

The points to be expressly emphasized are the position and the incision *into* the bladder. On these, in my opinion, rests the unvarying success. The former gives access to the gland and bladder, while the latter permits rapid ablation of the gland, also the viscus to be thoroughly explored with the finger or through the speculum, as could be the vagina in like position; and, obviously of equal importance, complete drainage is established with less traumatism than in other methods. In none of my operations have retractors, speculæ or other instruments been required to enable me to remove the gland, the finger serving all needs. I do not find it necessary now to use the knife to enter the urethra and bladder. After cutting to the urethra I am able with the finger to open it and get into the bladder by a boring movement. Then not having a cut through the commissure, I enucleate from above instead of from below as formerly. The method, however, is immaterial, although with the more recent plan a much smaller incision is made, one which will admit only the index finger.

With the foregoing ends the description of the operation devised and practiced by me for thirteen years.

Now should be discussed various matters of interest connected with the subject; indications and contraindications for operations; accidents and complications, perforation of the rectum and hemorrhage; sequelæ such as delayed healing or fistulæ; incontinence, temporary and permanent; epididymitis; impotence; mortality and ultimate result. Perforation of the rectum and hemorrhage are accidents that have not occurred to me.

The indications for operation are symptoms of obstruction with concomitant sufferings. There are no contraindications to operation unless the condition of the patient is such that no operation of any kind is warranted.

Delayed Healing or Fistulæ.—In all cases operated on there have been no permanent perineal fistulæ. The longest time the wound remained fistulous was between seven and eight months. It was a patient seen only on the operating table, and not again until he returned—six or seven months later.

Incontinence, Temporary or Permanent.—Usually, at first complete control of the bladder is regained, but afterward, when the patient begins to get about, a partial incontinence supervenes, that is to say, there is inability to retain urine when the desire to urinate comes, with some dribbling afterward, and if the patient becomes tired, there is actual incontinence. In a number of cases this has lasted about four months, but usually in men of about 70. I have not found it in any much under that age.

Epididymitis.—Formerly I assumed that epididymitic troubles were due to instrumentation, especially because, having for a long time abandoned post-operative instrumentation, no cases occurred, but that opinion must be modified, for that sequel has succeeded in several cases where no instrumentation has been practiced.

Impotence.—This is a question difficult to determine. Pride of occupation will cause men to make misleading statements concerning power in that direction. In men of 65 and over it is hardly to be expected that a youthful condition will be the result of the operation. Under that age I am confident that many of the patients operated on have told me the truth in regard to their regaining sexual powers.

The Ultimate Results.—In all patients from whom I have been able to obtain reports, one seems to have a traumatic stricture, coming about once a month to have a sound passed. He is 72 years of age. The tumor was pronounced carcinoma. Whether the trouble is due to stricture, to a slowly growing fibrous neoplasm or a malignant recurrence, I do not know. A man of 76, operated on over a year ago, is having some difficulty, and the attending physician thinks it due to a stricture. One other case, a man of 77, operated on one year ago, has some contraction which may increase; however, a No. 9 soft sound passes without difficulty. Aside from these cases, I know of no others having symptoms of that sequel.

Little or no mortality should be the immediate result of the operation. Among the seventy-three patients operated on by me there have been two deaths directly following the operation and probably justly attributable thereto: One from sepsis after eleven days, the other after seven hours.

The first was a man of 73 or 74 years of age, afflicted for several years with bladder troubles necessitating the constant use of the catheter. The urethra finally becoming both impassable and impermeable, he was aspirated suprapubically two or three times daily for a week or more, then consented to radical operation. Slight temperature existed, but otherwise there seemed to be no serious contraindications to the operation; in fact, none. No accident of any kind occurred in the removal of a large gland. I did not see the patient for ten days, when I found him dying from sepsis.

The second was a man of 70, who had been suffering for years in a manner similar to the first. He had been in hospital for several months, had had a perineal section and was septic, his temperature ranging from 100 to 102. At the time of operation he was feeble, joints somewhat painful; but his sufferings were such and death so comparatively near, it seemed judicious to make a strong effort to alleviate his distress, if not to save his life, so the prostate was removed. He left the table in good condition, and I left him about an hour

after the operation. Owing to the condition of the bladder, contrary to my custom, a drainage tube had been inserted. About three hours later, summoned in haste, I found him in a collapsed condition. There had been free oozing, but no more than I had seen in many cases; no quantity that could account for his state at that time. Pulse rapid, almost imperceptible, gasping for breath, dilated pupils, skin clammy, etc. In spite of transfusions, stimulants, etc., he died some three or four hours later. Reasoning on the cause of death has aided little in solving the mystery. While he might not have ultimately recovered, in my opinion he should have had little or no difficulty in passing the immediate effects of the operative traumatism.

Both of these individuals were operated on since June, 1903.

NOTE.—Urotropin, of course, is a recent drug. In 1891 and as late as 1899 I irrigated the bladder, but since have ceased almost entirely so to do.

Special Article.

MEDICAL AND HYGIENIC EXHIBITS AT THE LOUISIANA PURCHASE EXPOSITION.

I. AMERICAN EXHIBITS.

GUY HINSDALE, A.M., M.D.

Secretary of the American Climatological Association; Corresponding Fellow of the British Balneological and Climatological Society.

HOT SPRINGS, VA.

At no previous exposition has there been such a systematic display of the science and art of medicine as is found at the Louisiana Purchase Exposition at St. Louis. The visiting medical man is at once impressed with the magnificent exhibits in all matters relating to social economy.

SCHOOL AND COLLEGE EXHIBIT.

One of the largest buildings is devoted to education and social economy. Here the great universities, colleges and schools make exhibits that must be a great source of pride to every alumnus. Harvard University and the public schools and libraries of Massachusetts easily take first rank. A large model in plaster of the new buildings designed for the use of Harvard Medical School, at a projected cost of $3,500,000, shows what is destined to be the most superb equipment of any medical school in the world. Methods of teaching are shown and among these are kinetoscopic devices for use in teaching physiology.

Johns Hopkins University makes a good display of its various departments. The number and high quality of the university publications are noteworthy. Among their medical illustrations we noticed Dr. Howard Kelly's original gynecologic drawings, although the author's name was not attached. Works by Osler, Bloodgood and Thayer, and the series of Johns Hopkins Hospital Reports show the great activity in medical research in Baltimore. One can not help tarrying to see the sections devoted to the great technical schools. The Massachusetts Institute of Technology and the Rensselaer (Troy) Polytechnic School make most interesting exhibits and point with pride to their distinguished graduates.

Washington University, St. Louis, and the public schools of St. Louis make a fine display. The new buildings of Washington University occupy a site of 110 acres in the World's Fair enclosure and are used for the executive offices of the exhibition. They are ten in number, are in the Tudor gothic style, of red Missouri granite, and cost a million and a quarter dollars. Their dignified appearance adds much to the architectural features of the grounds.

ANTHROPOLOGIC EXHIBIT.

The department of anthropology of the exhibition occupies one of the university buildings. Lectures on ethnology, with living subjects, are given, and a model school of 100 Indian pupils provided by the United States government is an attractive feature. There is apparatus for measuring the body and the muscular strength, for testing the eyesight and for making other simple tests on the nervous system and mind, designed primarily for comparison of different races of mankind. There are, of course, exhibits of the work of the Indians as well as natives of Central Africa, Patagonia, the aborigines of Japan and the Filipinos. The results of these studies in anthropology will be issued after the exhibition, in a special volume, under the direction of Mr. F. W. Lehman, the commissioner, and Professor W. J. McGee.

The Smithsonian Institute makes an elaborate exhibit in the United States government building and the Indian display is intensely interesting. But the most enjoyable way to study the various races is along the "Pike," where they have been gathered from every quarter of the globe.

MARINE-HOSPITAL EXHIBIT.

The United States Public Health and Marine-Hospital Service has its exhibit in the section belonging to the Treasury Department. This has been arranged for popular instruction. Five life-size figures illustrating a surgical operation in progress in a marine hospital form a striking feature. The gowns, the instruments, the dressings and the usual hospital furniture are quite realistic. Their static machine and *x*-ray outfit attract attention. The Victor apparatus for Finsen rays as supplied to the marine hospitals is also shown. There is a model showing how a cesspool contaminates a neighboring well. Under Surgeon-General Wyman the service has undoubtedly been most efficient in its quarantine system in preventing the access of infectious diseases to this country from foreign ports. During the last year 857,000 immigrants were physically examined by officers of the service. The hygienic laboratory of the service is doing scientific work of permanent and practical value.

STATE AND MUNICIPAL EXHIBITS.

Under state and municipal sanitation one should note the fine exhibit of the Department of Health of New York City. Under Commissioner Darlington and the advisory board the best demonstration of a thoroughgoing health department may be seen. Their work for the prevention and treatment of tuberculosis is given a prominent place. The figures for 1903 show that 10,247 cases were reported to the department in New York City and that the deaths from that disease numbered 8,001; inspections, 12,514; renovations, 1,338; fumigations, 1,336; cases removed to hospital, 193. A map showing the location of recurrent cases of pulmonary tuberculosis is shown and correspondence showing how cases are reported and handled, if required, by the health authorities. The city of New York is fortunate in having such capable men to direct and carry out these vital undertakings for the public health.

The Department of Health of St. Paul, Minn., shows some remarkable figures. This claims to be the healthiest city in the world. Its population in 1900 was 163,065 and in 1903 it was estimated to have 180,000. Its death rate on this basis was 8.92 in 1903. Minneapolis was a close second with 9.79. These figures are about half those for New York City.

EXHIBITS ON THE SUBJECT OF TUBERCULOSIS.

The Manhattan State Hospital, East, on Ward's Island, shows a model of the system of tents and accessories to which the consumptive insane patients are assigned. The hospital is on an island in the East River, New York, and is one of the largest institutions for the insane in the United States. Dr. A. E. Macdonald, for many years physician in chief, began three years ago to treat the insane consumptives in this way and the results have been most satisfactory. The model prepared by patients in the hospital shops and sewing room consists of plain wall tents, with side extension, each having sixteen beds.

Models of tents and cabins specially constructed for the use of tuberculous patients are shown. Sanatoria for consumptives are represented by photographs of the Adirondack Cottage Sanitarium, the Gabriels Sanitarium, the Sharon Sanitarium, Massachusetts; the Pine Ridge Sanatorium, Rhode Island, and the Muskoka Sanatorium, Ontario, Canada. The

Pennsylvania Society for the Prevention of Tuberculosis, the first society of its kind in the United States and the second in the world, makes an interesting exhibit of literature, and the Boston Association for the Relief and Control of Tuberculosis shows how it carries on its valuable work. They began by taking a census of consumptive cases. In case of death they disinfect the house and cleanse it thoroughly. Lectures are given to labor unions and to other organizations. Following these measures, and no doubt because of them, the death rate from tuberculosis has fallen markedly. In 1901 the deaths from tuberculosis for each 10,000 of population was nearly 24; in 1902 the rate was nearly 21, and in 1903 it had fallen to 19. This is most encouraging and shows what is possible in a thorough campaign against tuberculosis or any other preventable disease.

MOSQUITOES.

New Jersey makes one of the most interesting exhibits either for the medical visitor or the public and one feature deserves special mention. The Jersey mosquito has long been famous for its size and voracity. It is apparently classified at the World's Fair as a game bird, and this exhibit is found in the building devoted to forestry, fish and game. The exhibit includes a model of a salt marsh showing how mosquitoes breed. Depressions near tidewater fill with rains or extra high tides, and water may remain for a week or ten days. The exhibit shows that the eggs are laid when these depressions dry out and when they refill the eggs hatch. It takes the larvæ less than a week to attain full growth in midsummer and in eight days the adults appear. Any system of drainage that facilitates the escape of the surface water will answer to prevent breeding. Large permanent pools or salt holes are not dangerous because they always contain fish. Fiddler crabs prevent mosquitoes by burrowing and making drains. Where these creatures occur there is no mosquito breeding. By a model it is shown how they burrow through the soil in every direction and provide a natural drainage. Hundreds of acres of marsh along the Jersey shore are drained in this way, and a recognition of this fact reduces the area to be dealt with artificially. Probably not over 50 per cent. of the salt meadows ever breed a single mosquito, and this is especially true of those large areas lying between the mainland and the fringe of islands south of Barnegat Bay. A systematic effort on a large scale to abolish the mosquito nuisance is now in progress at Cape May and Beach Haven under the charge of the state entomologist, Professor John B. Smith, in charge of the New Jersey experiment station, Mr. Hermann H. Brehme and Mr. Edgar L. Dickerson. They have determined the areas which are dangerous and are directing their work most rationally. They intend to abolish a nuisance that makes life burdensome along shore and in the region just inland and thus prevent malarial fevers. While they admit that kerosene and similar petroleum products, the cresol preparations and many other materials kill mosquito larvæ, they consider such measures only temporary and pay more attention to destroying the breeding places. They believe in draining and filling, for which they use immense hydraulic dredges which, while deepening the channels, can deposit the dredged materials thousands of feet away on low places where mosquitoes breed. They get the fish to help them and welcome the dragon-fly and other predatory insects and confidently expect that New Jersey will be free from the mosquito pest in a decade.

In this connection mention should be made of the admirable exhibit of the Superior Board of Health of Cuba. This is in the United States government building and was arranged by Dr. Charles J. Finlay, the work having been started by Colonel W. C. Gorgas, who was chief sanitary inspector. They show with pride that the death rate of the island of Cuba in 1903 was 16.87 per 1,000 and that no case of yellow fever has originated in Cuba for the last three years, although a few cases have come in from Mexico. The most stringent measures have been taken to restrict the breeding and the infection of mosquitoes. Photographs of these are shown in all stages of development and they have regular screen-protected cages or compartments in which mosquitoes in breeding jars are cultivated and used for demonstration in their living state. Larvæ, pupæ and adults are shown of various species, including *Stegomyia fasciata* and *anopheles*. Some of these are kept in jars for five months. The stegomyia is small and stands straight with its body parallel with the glass, while anopheles stands off at an angle, is larger and has spotted wings. Recent regulations in Cuba provide for the use of mosquito-proof tanks and rain barrels. From the drawings and photographs it is easily seen how the insect in biting inserts six weapons at once, viz., two maxillæ, two mandibles, one labrum and one hypopharynx; one labrum remains on the outside bent up as a lever. Blood is drawn up through the labrum and at the same time saliva is poured out through the hypopharynx. When infected the parasite of yellow fever goes out with the saliva. In the case of yellow fever, infection must occur in the first three days of the fever. It is then at least twelve days before the mosquito can transmit the infection. A mosquito has been known to transmit yellow fever fifty-nine days after it was originally infected. People are fined who are caught allowing mosquitoes to breed and neglect to use the mosquito-proof tanks and rain barrels. Similar regulations with fines for neglect are also in force in Laredo, Texas. Cuba also shows the methods of work in a vaccine laboratory.

HEALTH RESORTS.

American health resorts are not very generally represented. Among those in evidence are Castle Creek Hot Springs and Aqua Caliente Springs, Arizona; Glenwood Springs, Colorado, and Watkins Glen, New York.

MINERAL WATERS.

American mineral waters are shown under a special display which Dr. Albert C. Peale of the Smithsonian Institution has arranged. The waters are exhibited as usually sold and analyses in many cases are shown graphically. This, however, is very incomplete and does not fairly represent the great interests involved in one of the most valuable features of the American medical armamentarium.

(To be continued.)

TRAINING OF THE FEEBLE-MINDED.

SOME INTERESTING NOTES ON ONE DEPARTMENT OF THE EDUCATION EXHIBIT AT ST. LOUIS.

The exhibit of "American Institutions for the Care and Training of Feeble-Minded Children," in Section 5 of the Palace of Education and Social Economy in the World's Fair at St. Louis, contains the work of children in these institutions, both public and private. The exhibit is intended to impress the variety of the work done at the state institutions, not to give prominence to the work of any one institution. Each institution has contributed something of its specialty. The schools are all filled, and if a number of the pupils should leave at any time their places could be easily and quickly filled, as there are plenty of pupils ready to take their places.

There is no classified work done in the state institutions, the work being almost entirely individual. This is, of course, due to the difference of the grades of deficiency in the children themselves. The chief advantage of the state institutions lies far more largely in developing in the child himself a feeling of self-dependence, of independence, of the right which is due them and which they can not get in competition. There is very little competition either in the state or private institution. The child can not be reached through competition. It only hurts him, retards him. It is only through the individual training of the child that he reaches his highest development. And this development depends on the teacher more than on any other agency. The child is reached more with the heart qualities than with the head qualities. He can be influenced to a greater degree by love than anything else. He is apt to be discouraged by competition, and the whole success of his training lies in his encouragement.

Professionally, physically and psychologically, a dissertation on that subject would have to be very thoroughly studied out in order to give any value to the neurologist. There were one hundred thousand feeble-minded returned in the last census. This does not take into account subnormal children, as they are not given in the sense of feeble-minded children. There are twenty-eight public institutions and thirty-one or thirty-two private institutions that are known and classified as such. The state is very rapidly coming to the front in the matter of these institutions, and, of course, the neurologist is positive about the necessity of having them.

There is much interesting work shown in this exhibit. Beginning with the kindergarten, the weaving, pricking, folding, cutting, sewing, etc., is indeed very well done by children from five years and upward. One child, five years of age, with his left hand crippled from paralysis, did some folding that would do credit to many an older child in the public school. The knitting, lace making, crocheting, fine sewing, burned wood carving, inlaid work, etc., done by the older boys and girls are very interesting. One chair exhibited was made by a middle-grade boy in the Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa., the caning of which was done by a moral imbecile in the custodial department.

Clinical Reports

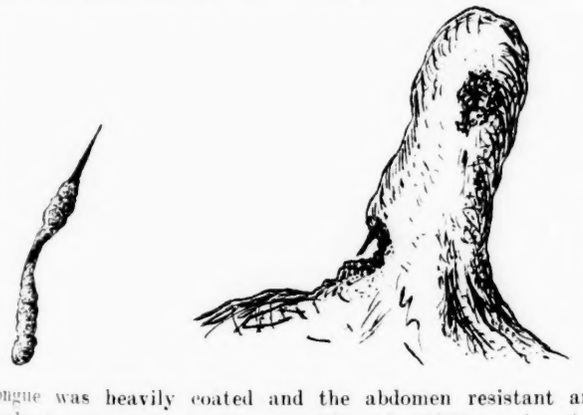
PIN IN APPENDIX.

EVAN O'NEILL KANE, M.D.

KANE, PA.

For the notes of the following case I am indebted to Dr. Hamilton of Smethport.

C. W., aged 52, a bookkeeper, always enjoyed good health until four years ago, when he had an attack of appendicitis, which confined him to his bed about a week, and from which he recovered. A week prior to the date of my summons, he ate inordinately of apples, mince pie and other indigestible viands, and an attack of acute indigestion followed, merging gradually into a pronounced attack of appendicitis. I found the temperature nearly normal, the pulse slow and full, the facial expression good, and the patient almost free from pain. The



tongue was heavily coated and the abdomen resistant and tender to pressure. A mass was felt under McBurney's point. The patient felt better than for several days, and was almost reluctant to consent to operation. On opening the peritoneum a quantity of darkly tinged fluid poured out. The appendix was found imbedded in adhesions and was greatly thickened and friable, its hue dark crimson, almost purple, with two points of complete mortification, one of these being at the base and the other almost at the extremity. The organ was short, measuring only two inches in length.

In separating the appendix from the adhesions the finger tip of my glove was torn by something sharp, which proved to be the point of a pin projecting from a gangrenous area at the base of the organ. The pin was slightly crooked at the middle and coated heavily with concretions, except toward the point. It must have entered the appendix head first. How many years it had lain there it is impossible to say, as the patient had no recollection of ever having swallowed it nor, indeed, with the exception of the attack of appendicitis four years before, ever recognized any symptoms pointing to alimentary disturbance.

DYSTOCIA DUE TO FETAL ASCITES.

GEORGE L. BRODHEAD, M.D.

Professor of Obstetrics, New York Post-Graduate Medical School and Hospital.

NEW YORK CITY.

Among the very rare causes of dystocia we find fetal ascites. The condition of ascites in itself is rare enough to be of great interest, but there are comparatively few cases recorded in which the amount of fluid was so great as to cause serious difficulty at the time of labor. The history of the case is of unusual interest from the fact that the complication occurred very early in pregnancy, gestation having advanced to a period between five and one-half and six months.

History.—The patient, a primipara, 18 years of age, native of Germany, was first seen in the first stage of labor in the outdoor service of the Post-Graduate Hospital. The history of the patient, prior to the date of her pregnancy, was absolutely normal, and no history of syphilis could be obtained. Her height was about 4 2/3 feet and weight about 96 pounds. She had not menstruated for three months, but the fundus uteri reached a point five fingers above the umbilicus. She stated that labor had been in progress twenty-four hours, with severe pains at irregular intervals.

Examination.—The presentation appeared to be breech, and the heart was heard in the left upper quadrant. Palpation and auscultation were difficult on account of the tense condition of the uterine and abdominal walls. The vaginal examination showed the cervix to be about three fingers dilated, and the presenting part above the brim felt, through the membranes, like an edematous breech. The patient was in excellent condition, and was allowed to go on for some hours longer, but finally, no advance having been made in the meantime, I was sent for to see the patient. The membranes had ruptured several hours before my arrival, and the cervix had become very edematous. The fetal heart could not be heard, and as the patient was thoroughly tired out it was thought best to operate at once.

Operation.—Under ether, the cervix was fully dilated and the presentation found to be a fluctuating tumor, evidently fetal in origin. The right hand of the operator was then passed upward into the uterine cavity; the lower extremities were found high up in the right half of the uterus; the head and chest were at the fundus, but the arms of the fetus could not be felt, for the reason that they were flattened out against the chest and abdomen by the pressure of the head, which was well flexed, the face looking downward and to the right. With a pair of scissors the abdomen was punctured and a little over a quart of clear yellowish fluid escaped. After the fluid had drained away the fundus came down to a point about 2½ inches above the pubis, and a few good contractions resulted in the expulsion of the fetus, abdomen first, head last. A typical hour-glass contraction of the uterus made manual extraction of the placenta necessary, but her condition postpartum was excellent. The placenta showed marked calcareous degeneration on both of its surfaces, but seemed normal in other respects.

Examination of Fetus.—The fetus was about 30 cm. in length, apparently between five and one-half and six months, and there was a thick caput in that portion of the abdominal wall which had presented in the half dilated cervix, the puncture having been made at the center of the edematous swelling.

With the exception of a slight temperature during the early part of the puerperium, the patient made a good recovery.

110 West Fifty-seventh Street.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, JULY 16, 1904.

SCARLATINAL INFECTIOUSNESS.

In spite of the most painstaking care, scarlet-fever convalescents not infrequently communicate the disease to others on their discharge from the physician's care or from the hospital. The cases of scarlet fever that develop under the circumstances are known in English literature as "return cases," which naturally have a most important bearing on the question of isolation of scarlatinal patients and the source of scarlatinal infection. During recent years the supposed infectivity of the desquamating skin in scarlet fever has lost much in importance, and there are now experienced clinical observers who believe that the peeling scales are no more dangerous than clothes and other articles that have come into contact with scarlatinal patients, i. e., that the skin *per se* is not infectious. Perhaps the main reason for this change in belief is the fact that desquamation appears to have no special relation to "return cases." In Aaser's series[1] of 3,800 scarlet-fever patients, 79 in all likelihood were infected by discharged patients. We learn that in all these discharged convalescents desquamation had been completed for a week or more; that all were thoroughly disinfected before they were sent out; and, what is very important, that in about 80 per cent. there were present abnormal, principally inflammatory, conditions in the nasopharyngeal mucous membrane and in a considerable number in the ears. From his careful observations Aaser emphasizes that there is reason to believe that the virus of scarlet fever, whatever its nature may be, attaches itself especially to the mucous membranes of the nose and throat, as well as of the middle ear, and that isolation of scarlet-fever convalescents should be maintained so long as any of these membranes present any signs of abnormal secretions. Furthermore, that desquamation in itself can be no reliable indication as regards contagiousness.

In England "return cases" have received much attention, and as a consequence the opinion is gaining ground rapidly that the infectivity of desquamation has been unduly emphasized. Indeed, so strong has this conviction grown that in some places radical modifications have been made in the methods of administration, and with interesting and instructive results. Killick Millard[2] discharged 190 cases before desquamation was completed; five of these cases became responsible for "return cases," but of these five four had nasal discharges and one an open sore behind the ear. In Southampton Lauder instituted a new system of isolation and discharge of the scarlatinal patients in the fever hospitals under his care during 1903.[3] Stated briefly, the new system aims at protecting mild and convalescent cases by segregation from cases in the acute stages or with complications. Indeed, all complicated cases are isolated. As a result of this innovation, Lauder believes that the number of severe, complicated and protracted cases has fallen off perceptibly. At the end of the third week cases free from complications are isolated in disinfected quarters, bathed frequently and given daily nasopharyngeal douches, and then sent home at the end of the fourth week, regardless of the state of desquamation. Lauder compares the results for 1902 (old system) and 1903 (new system). In 1902 the average period of detention in hospital was forty-eight days, in 1903 thirty-four days—a reduction of fourteen days—but the number of "return cases" in each year is the same, namely, seven, and this works out in 1902 as 4.27 per cent., in 1903 as 2.15 per cent. on account of the greater number of cases discharged in 1903. Of 325 cases discharged in 1903, 33 were free from peeling and complications, and these caused no return cases; 204 were peeling without complications and 2 caused return cases, and 88 were complicated cases, and of these 5 caused return cases. These last cases were detained in hospital an average of fifty days, while the average stay of the cases in the two first groups was nearly twenty days less. The 204 cases in the second group were returned to 180 houses, containing 744 persons who had not had scarlet fever, 363 being under 15 years of age, but as "return cases," 2 could be traced only to two of these patients—and very careful attention seems to have been given this point—the infectivity of desquamation *per se* certainly must be very limited, to say the least. One of the two infecting cases developed a rhinitis on the eighth day after being discharged, and five days later a sister came down with scarlatina. All the five infecting complicated cases had had nasal or aural discharges before dismission from the hospital, and in some of them the discharges reappeared a few days later. It will be remembered that in these five cases all peeling had ceased, and there seems to be no fault to find with the methods of disinfection of the patients or their clothes. Consequently, these cases furnish strong evidence of the infectiousness of discharges from nasopharynx and ears. Lauder suggests that the virus may linger in the tonsillar and other tissues even when it is difficult to detect any abnormal discharge, and Aaser recommends the use of hydrogen peroxid in nose and throat in order to detect minimal degrees of continuing pathologic secretion.

Hence the general import of these observations, and

1. Tidsskrift for den norske lageforening. 1902.
2. Lancet, 1902, April 5.
3. Annual address, Southampton Medical Society, 1904.

others with similar results which are now available, is that the dangers of desquamation have been exaggerated, that at least one very important source of scarlatinal virus is in nasopharyngeal and aural discharges of convalescents, and that important modifications are demanded in the usual routine methods in the hospital treatment of scarlet fever. Undoubtedly the new method inaugurated by Lauder will be continued by him, because the physicians in Southampton, who followed the departure with interest and presumably also, at least at first, with a reasonable amount of distrust, declared themselves as well satisfied with the results and reconciled to the idea of having peeling cases going about. In addition to its other and greater advantages, this shortening of the period of hospital treatment has the minor one of economy, which is effected when the number of days saved is reduced to the financial equivalent. The partial individual isolation advocated by Lauder has also much in its favor. Certainly the early removal of patients from such specially infected zones, as likely to develop in hospitals, especially when crowded, must tend to limit the chances for the transmission of infection and the development of complications. In scarlet fever each acute case is an active source of infection, primary as well as secondary. Is it not, therefore, rather singular that so little has been done to protect such patients from one another, the mild from the severe, the uncomplicated from the complicated? The logical thing to do is individual isolation until uncomplicated convalescence is well established.

INSTRUCTION IN PSYCHIATRY.

Continuing our discussion[1] of a few weeks ago on the teachings of psychiatry in this country, a brief reference to some of the features of the teaching of this subject abroad may be of interest. It will be remembered that we pointed out at that time the fact that psychiatry is lagging behind the other subjects in the advance of medical teaching in the United States. It is especially on the clinical side that the need of reconstructing the teaching methods for this subject is most apparent. Among the principal medical schools of this country whose courses in psychiatry were reviewed in these columns, it was shown that, with a few noteworthy exceptions, the clinical instruction is extremely meager.

It is, of course, well known that no other country bestows such princely sums on the public care of the insane as does the United States. Nowhere else are these unfortunates so splendidly housed or so liberally maintained, yet, as we mentioned previously, the same public which makes this lavish provision for custodial care has thus far provided but one psychopathic hospital for the clinical instruction of the students in the public medical schools.

It will, perhaps, interest and surprise our readers to run over the list of the German universities, with the dates at which clinics in psychiatry were established in each: Jena, 1848; Würzburg, 1848; Erlangen, 1850; Munich, 1861; Berlin, 1865; Göttingen, 1866; Strassburg, 1872; Marburg, 1877; Breslau, 1877; Heidelberg, 1878; Halle, 1879; Bonn, 1882; Leipzig, 1882; Freiburg, 1887; Greifswald, 1889; Königsberg, 1892; Tübingen, 1894; Giessen, 1896; Rostock, 1896; Kiel, 1901. Since 1878 ten of these universities have organized asylums of their own, while the others still depend on the provincial asylums for clinical purposes. The thoroughness and effectiveness of the German University teaching is sufficiently attested by the facts that since 1901 a six months' course in psychiatry is compulsory, and that the clinical examination of an insane patient is a part of the examination for the degree of doctor of medicine.

The special advantages of the university psychopathic hospital are that the cases can be selected and only those received which are useful for clinical purposes; that the cases can be kept under continuous observation, and that every convenience can be secured for scientific research. In the great asylums the majority of the cases are chronic, and, in many cases, the remoteness of the asylums from the medical schools makes it most inconvenient and expensive to conduct clinics for classes of students. Then, too, while most of the large American asylums have some equipment for laboratory work, the physicians in charge are, as a rule, so absorbed in the routine work of the institutions that they have neither the strength nor time for pure research, and thus a great amount of valuable material is wasted.

One of the most remarkable evidences of the belief of the Germans in the value of psychopathic hospitals is shown by the University of Giessen. There are barely 150 medical students at Giessen. The town is one of less than 20,000 inhabitants, in a comparatively insignificant state with necessarily limited resources, yet the university authorities have expended a quarter of a million dollars on the erection of a model psychopathic hospital, which was opened in 1896.

The hospital at Heidelberg is under the charge of Kraepelin and Nissl, men whose reputation as teachers of psychiatry attracts to them students from all parts of the world, including many from our own country. It is also true that many students from this country go to Leipzig especially to attend the famous clinics of Flechsig at the university hospital. Does it not seem self-evident that the pre-eminence of Germany in psychiatry at the present time is due in large measure to the stimulus given to the study of mental diseases by these various centers of scientific observation?

Other continental nations as well are making special provision for the clinical study of mental diseases. Switzerland has clinical hospitals for mental diseases in connection with the universities at Basle, Lausanne, Geneva, Berne and Zurich. These are in each case the cantonal asylums. They are within immediate reach of the medical schools, and the medical directors are

1. THE JOURNAL, May 28, 1904, p. 1420.

professors of the respective universities. In Italy there are clinical asylums in connection with the various medical schools. The University of Modena is at the head of the psychiatric movement in Italy and has a magnificent asylum. At Pavia the clinic in psychiatry is installed in the general city hospital, and here Lombroso began his researches in anthropology. The universities of Florence, Turin and Geneva all have clinical asylums.

The German universities began by utilizing the neighboring asylums for instruction, inconvenient though this may have been. In fact, our foreign brothers have a thrifty way of making the best of whatever is at hand which we might well imitate. An interesting similarity has recently been pointed out between Copenhagen and one of the largest American cities. The University of Copenhagen has, of course, a medical school. It is situated in the city, and in close proximity to the large, free general hospital. This hospital has separate pavilions for persons suffering from mental diseases, and these patients are used for the clinical instruction of the university students. The situation of the university medical school and the hospital pavilions for mental diseases used for clinical instruction, is curiously paralleled in the American city where a detention hospital, full of interesting and constantly fresh material, is surrounded by medical colleges a few hundred yards away. Yet here the parallel ceases. The splendid possibilities offered by this hospital are practically ignored in the American city, and the hundreds of students who daily surge around it escape unscathed by the acquaintance with its wards. On the other hand, there are already some cheering signs of a renaissance of interest in the case of the insane in our country, and we believe that the next decade will see psychopathic hospitals in connection with every prominent medical school in this country.

RADIUM AND ITS EFFECTS ON VITALITY.

Radium has been a source of no little disappointment in medicine and surgery. This, it is true, is not because of any failure of the wonderful new substance to act in the way in which its discoverers announced, but is attributable to the exaggerated claims of certain pseudo-scientific observers who proclaimed unwarrantably that medicine would have in radium a marvelous therapeutic agent. Notwithstanding this disappointment, serious scientific investigation with regard to the possible therapeutic value of radium in medicine and surgery is being, and very properly should be, continued by careful observers. That it will prove of value in the treatment of certain superficial surgical affections may be expected from what has been found quite recently with regard to the biologic effects; that is to say, the effects on vitality and vital processes of radium. When seeds, for instance, are exposed for a certain length of time to the radiations of even a small quantity of this new metal their future growth is distinctly retarded. The longer the seeds are exposed the more prolonged is the period of retardation of growth and the slower do the plants which come from the exposed seeds increase in size. Plants grown from seeds that have not been exposed to radium will at the end of two weeks of growth be at least three times as high as plants which come from seeds exposed to radium for forty-eight hours, and at least twice as high as seeds that have been exposed for twenty-four hours.

On animal life in its lower stages radium has quite as great effect. If the larval forms of certain insects be exposed to radium just long enough not to injure them to such an extent as to cause their death, the result is a very curious retardation of life processes, that may even go on to the extent of keeping the larva entirely from entering on those stages of transformation which would complete its proper cycle of existence. If, for instance, the familiar meal-worm, which is the larval stage of the ordinary black beetle so commonly seen in houses, be exposed to radium for some hours the specimens which survive the exposure continue their existence as larvæ much beyond the usual time and do not enter on the pupa stage. While control-worms raised under similar circumstances, but without having been exposed to radium, become pupæ and then fully fledged beetles which lay eggs which develop meal-worms, and then proceed through the usual subsequent stages for several generations, the exposed larvæ continue in their original form. "Methusalems," as Dr. Abbe called them, at the last meeting of the New York Academy of Medicine for the year, incapable of reaching their own proper development and impotent to reproduce their kind.

Encouraged by such observations as these, it is not surprising that the surgeon should hope to produce a favorable effect on such rapidly growing tissues as are those of malignant disease. If malignancy is really due to a reversion of cells to the reproductive type, as was pointed out by English observers some months ago, then all the more would it seem possible that radium might produce a retarding effect on such aberrant reproductive processes. Radium does not affect reproduction only by retardation or prevention, but it also may, under certain conditions, apparently encourage anomalous reproduction. If the ova of certain lower forms of life be exposed to radium they will develop without the necessity for the usual stimulus derived from conjugation with male cells. This is, of course, the reversion to a parthenogenetic condition which has been pointed out as occurring in the cells of the sea urchin, for instance, as the result of contact with certain stimulant, usually very toxic substances. The whole story of biologic effects produced by radium, however, would seem to point to benefit to be derived from it in the anomalous cellular processes involving overreproduction, which we group under the term malignancy.

DYSBASIA ANGIOSCLEROTICA.

The condition to which Erb gave this name in 1898 generally has been known in this country as intermittent claudication, and in Germany as *intermittierendes Hinken*. The symptom-complex, which, as the name implies, is one of intermittent halting, was first described as a disease of the horse, the condition being common in this animal, and generally being due to interference with the circulation in the hind legs from verminous aneurism of the femoral arteries.

That the condition is relatively common in man seems not to have been recognized as yet. When, however, a single observer (Erb) has seen forty-five cases in six years it seems fair to assume that the condition must be frequently overlooked. In a recent paper, Erb[1] gives the result of the study of these forty-five cases and those he had previously seen. He divides his cases into those with typical and those with atypical symptoms. The typical cases are easy of recognition; the patient while walking experiences paresthesia and pains in the feet; tension, pain or stiffness in the calves or even above; either coldness and cyanosis or redness and heat in the feet; finally an increasing difficulty of locomotion that in increasingly shortening intervals causes the sufferer to stop completely and rest. After a short rest all of the symptoms disappear, and the subject is able to walk on as usual until he attempts to walk too fast, when there is a recurrence of the symptoms. Such are the subjective symptoms; on the objective side the sign of paramount importance is the great diminution or lack of pulsation in one or more of the arteries of the affected foot or feet. Signs of lesser importance are the sclerotic state of the pedal arteries, coldness or cyanosis of the feet, or at times redness.

In the atypical cases a variety of symptoms may occur; in some the legs become weak and easily tired on exercise without the characteristic intermittent claudication; in other cases there may be paresthesia, fatigue, and a feeling of cold and pain in the knee-joints. In the atypical, as in the typical cases, the obstruction to the circulation of the feet is the objective sign of vital importance. Most cases are bilateral, and in the majority all four of the main arteries of the foot are affected; in some the pulsation in the pedal arteries is still apparent, and in very rare cases so apparent that it seems likely that in them the affection is due to a spasm of the vessels and not to an organic obstruction. In nearly every instance the patient is the subject of a high grade of arteriosclerosis, and a certain amount of this disease seems almost indispensable. Vasomotor disturbances, gangrene, neurasthenia and flatfoot are among the complications. With regard to the etiology of the affection, it is to be noted that men almost exclusively are attacked; that the disease occurs, as a rule, after the fortieth year; that the Russian and possibly also the Jewish races seem relatively predisposed; and that history of excessive tobacco smoking or exposure to cold is frequently elicited. Nearly all cases have occurred among the better classes of society. Syphilis and alcohol seem to bear little or no relation to the trouble. Erb lays special stress on the excessive use of tobacco, and thinks that this explains the immunity of women. He finds difficulty in explaining on the same grounds the relative immunity of the lower classes.

The treatment is that for arteriosclerosis plus local measures in the form of massage and galvanic footbaths. The frequency with which the symptom-complex occurs in Germany makes it likely that the condition will be found more frequently in this country if looked for.

1 Münchener med. Wochenschrift, vol. li, No. 21.

THE NECESSITY OF CLINICAL INSTRUCTION.

The Supreme Court of Louisiana has set its seal on the axiom that a hospital in which clinical instruction can be given is an absolutely necessary adjunct to medical teaching.[1] The decision is one which should be emphasized before the educators of the country; young men and women who expect to study medicine should realize that ample clinical facilities are vital to the success of their college course. The decision was in a case in which the right of a university to establish a hospital was brought into question, and the court said that since the university already had special authority to teach medicine, it needed no additional authority to establish and maintain hospitals, because a hospital used for clinical instruction is an educational institution. Didactic instruction is but a preliminary to clinical study, and we are glad to have this fact emphasized by a supreme court.

COLONIES FOR EPILEPTICS.

The Wisconsin State Medical Society has taken up an important matter in its recommendation of colonies for epileptics. Its action, as we have noted in our report[2] of the proceedings of the society, was instigated by the paper read by Dr. W. A. Gordon, superintendent of the Northern Hospital for the Insane at Oshkosh. He called attention to the evil influence that epileptic and insane persons have on one another when in the same asylum; he also referred to the adoption of the colony plan by New York, New Jersey, Ohio, Texas, Kansas, Pennsylvania, Massachusetts, England, Germany, Switzerland and Belgium, and to the successful results of its use. The society took up the matter vigorously, and appointed a committee to urge this measure before the state legislature. The example is a good one for other states. The possibilities of improvement in the care of epileptics is well worthy the attention of an organized profession.

WHAT IS BRANDY?

The prescription of alcohol in its various forms is often a questionable proceeding because of the inability to be certain that no impure decoction will be supplied on the prescription. The question, "What is brandy?"

1. See medicolegal report, THE JOURNAL, July 9, 1904, p. 148.
2. THE JOURNAL, July 2, 1904, p. 65.

has been the subject of trial recently before a London magistrate. A bottle labeled "fine old pale brandy" was found to contain 60 per cent. of spirit not derived from the grape. Expert evidence for the prosecution defined brandy as "spirit derived from the grape." The defendants claimed that brandy had never been a spirit exclusively derived from the grape. Medical evidence was given that the great value of brandy in medical practice was due to the ethers, which exist in higher proportion in spirit derived from the grape than in spirit derived from other sources. The magistrate decided that the liquor sold was not brandy, and imposed a fine. This decision is a contribution to exactness in terminology and puts a safeguard about the use of this spirituous product. It is said that a large proportion of so-called brandy is not made with spirit derived from the grape, and the danger from sophistication, while not as great here as in some other liquors, is to be borne in mind.

THE SCIENTIFIC EXHIBIT.

At the recent session everyone noted the increased interest in the Scientific Exhibit, as evidenced by the large attendance and by the comments of members. Most members know that the Scientific Exhibit is an outgrowth of a smaller prototype that for some years marked the annual sessions of the Indiana State Medical Society. In 1899 the Indiana members brought their exhibit to the session of the Association at Columbus, Ohio, and readily succeeded in having the Association adopt the plan as a regular feature of its sessions. The range of specimens shown at Atlantic City was wide, and the annual growth of the extent of the exhibit was particularly marked. The demonstrations that were held proved to be a very popular feature, and the scientific sections have seen the benefit their work may derive from a meeting in the exhibit hall, so that one or more sections next year are planning each to hold a half-day's meeting among the specimens at which the exhibition of specimens will be a chief feature. Without doubt this plan is bound to be popular and instructive. Section officers should begin early to arrange with the directors of the exhibit for co-operative work that may be planned for the Portland session. Those who have worked so hard to bring the annual exhibit to its present proportions should feel gratified at the very evident success of their effort. The House of Delegates certainly reflected the sentiment of those in attendance when it voted the thanks of the Association to Dr. Wynn and his colleagues.

LESS TUBERCULOSIS.

An interesting publication has been sent out by the American Statistical Association in the form of a little paper by Dr. S. W. Abbott, secretary of the Massachusetts State Board of Health. It reviews the consumption mortality in the state of Massachusetts, where vital statistics have long been kept in a satisfactory way, and shows that the death rate has declined from nearly 4,000 (3,901) per million inhabitants in 1851 to 1,595 in 1902. The maximum appears to have been reached in 1853, when it was 4,272 per million, but since that time the mortality has declined with considerable uniformity to the present day, and is now only 37.3 per cent. of that which prevailed in 1853, fifty years before. Comparative statistics from Great Britain are also given, showing that the consumption death rate decline has been much more rapid and general in Massachusetts than in Great Britain. Such encouraging facts as these favor, if they do not altogether justify, the belief that tuberculosis may become an extinct disorder. Undoubtedly, if the decrease continues at the same rate as in the past, it must finally reach the point where a cipher represents the condition, but this is a little too much to hope for. In Great Britain the general death rate has been lower throughout than in Massachusetts, though the decrease has not been so great. Other interesting points, as the ratio of deaths of the two sexes, age periods, etc., are also discussed. The general conclusion is that the death rate in New England at the present time is somewhat less than 20 per 10,000 living inhabitants. In some states it has diminished as much as 50 per cent. in the half century, and appears to be more rapidly diminishing at the present time than in former years. Women seem to have shared better in the decrease than men. In the early years more women died of consumption than men, but at the present time fewer, and, while the death rate of consumption at every age of life is decreased, it is greater at the older than at the younger ages.

AS OTHERS SEE US.

Printers' Ink is a journal for advertisers and represents their interests. In a recent number it discusses the fight being made by the Postoffice Department against certain forms of medical advertising. It says that newspapers printing advertisements that are objectionable in the opinion of the Postoffice Department will be ordered to discontinue them or lose their mailing privileges; that this action is held by some to be the beginning of the end for patent medicines. This, however, is considered to be extremely unlikely. A New York advertiser of a proprietary remedy gives *Printers' Ink* some views on the proprietary medicine business that ought to be of especial interest to physicians who prescribe proprietary remedies. We quote:

"This is not the first agitation against patent medicines. Just now the papers are printing editorials and articles calculated to hurt sales. The recent article in the *Ladies' Home Journal* particularly, calling attention to the percentage of alcohol in certain well-advertised tonics, may be counted on to hurt those remedies to the extent of many thousands of dollars. But I have watched the progress of several such crusades, and find that in a few months the public forgets all about them. Then the advertising again becomes quite effective.

"The patent medicines sold to consumers will hold their own for a good many years to come, I believe. But the patent medicine of the future is the one that will be advertised only to doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature, sometimes gotten out in the shape of a medical journal, and through samples to doctors. For one physician capable of prescribing the precise medicinal agents needed by each individual patient there are at least five who prescribe these proprietaries. They are the chief standby of the country practitioner. I have a large prescription department here, with three men who are

graduates of German pharmacal institutions. They are highly skilled. But three-fourths of all the prescriptions received are for these proprietary remedies, and the pharmacist simply opens the package and writes a label, 'A teaspoonful three times a day before meals.'

"Now, the doctor prescribes ———— or ———— as a builder after an illness, or for slight debility. The original bottle is given to the patient. He sees that the remedy does him good, and when he feels a trifle run down again he goes to a drug store and buys another bottle, not troubling the doctor. He meets a friend on the street who is not looking well. 'I know exactly how you feel,' he says. 'Now, just go and buy a bottle of ————. Best thing in the world. My doctor prescribed it for me, so it isn't a patent medicine.' In this way the name of the remedies advertised only to physicians get abroad to the general public, and I have no hesitancy in saying that for every bottle sent out of our prescription department we sell six over the counter without prescription. These remedies are all more or less good, understand, though some of them should be taken only under the direction of a physician. The proprietary medicine of the future, though, will be advertised through these channels. The medical papers will reap the harvest, and the physician himself, always so loud in the denunciation of patent medicines, will be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day."

Medical News.

CONNECTICUT.

Honorary Degrees.—Degrees *cum laude* were awarded to five graduates of the Yale University Medical Department, June 27.

April Death Rate.—The mortality of the state during April was equivalent to an annual death rate of 17.2 per 1,000. The deaths numbered 1,375, of which 332 or 24 per cent. were from infectious diseases.

Presentations.—At the meeting of the Hartford Medical Society, June 20, a silhouette of Dr. Horace Wells was presented to the society by his son, Charles T. Wells, and Dr. E. J. McKnight presented to the society the chair used for many years by Dr. Irving W. Lyon.

Cerebrospinal Meningitis.—The Connecticut State Board of Health, in its report, states that while the sporadic form of the disease has been almost continuous for several years, with an average mortality of 57 per year, the disease assumed epidemic form in April, 76 cases having been reported, 43 of which were in Hartford, with 20 deaths.

State Society.—At the one hundred and twelfth annual meeting of the Connecticut Medical Society, held in New Haven, May 25 and 26, the following officers were elected: Dr. William H. Carmalt, New Haven, president; Dr. Edward H. Welch, Winsted, vice-president; Dr. Nathaniel E. Wordin, Bridgeport, secretary; Dr. Henry S. Miles, Bridgeport, assistant secretary, and Dr. William W. Knight, Hartford, treasurer.

ILLINOIS.

A Verdict of One Per Cent.—The damage suit for $5,000, brought by Charles Cox of Cottonwood against Drs. B. F. Little, Janesville, and Harry B. Vannatta, Lerna, has been decided in favor of the plaintiff, with a verdict of $50 and costs.

Personal.—Dr. Joseph L. Wilcox has been elected city physician of Springfield.——Drs. Henry S. Bennett, Moline, and Cyrus T. Foster, Rock Island, have been appointed physicians of Rock Island County.——Dr. William R. McKenzie, Chester, has been appointed physician to the southern penitentiary, vice Dr. Arthur M. Lee.

Consumption Crusade.—The Illinois State Board of Health has just issued a pamphlet written especially for laymen, and intended for distribution broadcast, in which consumption is described, its ravages are graphically represented, and rules for its prevention and limitation of its spread detailed. It is also announced that the State Board of Health in needy cases will make free examinations of sputa.

Chicago.

Personal.—Dr. J. Allen Patton has returned from Europe.—Dr. Frederick Greenbaum left for Europe July 8.

Hospital Property Transferred.—The Chicago Hospital, now almost completed, has been formally transferred by the Chicago Hospital Building Company to the Chicago Hospital (incorporated), for $135,000.

A Low Death Rate.—For the week ended July 9 the deaths numbered 395, 3 less than for the previous week, and 168 less than for the corresponding week of 1903, the respective annual death rate per 1,000 being 10.68, 10.75, and 15.62. Consumption led death causes with 68; Bright's disease and heart disease each caused 37, violence 35, and pneumonia 33.

Milk Up to Standard.—For the first time since the Health Department undertook the supervision of the city's milk supply for 1893 every sample of milk and cream collected by the milk inspectors was found up to or beyond the standard provided by the ordinance—3 per cent. of butterfat for milk and 15 per cent. for cream.

INDIANA.

A Fire Loss.—The house of Dr. Samuel E. Earp, Indianapolis, was damaged to the extent of $2,500, by fire, June 24.

Shot in Self-Defense.—Dr. George W. Pirtle, Carlisle, on June 30, was attacked on the street by Burdell Jacobs with a club and knocked down. In self-defense he drew a revolver and shot Jacobs, inflicting wounds from which he died soon after.

Irregulars Flee.—W. T. Davis, W. B. Blackstone and W. R. Darrow, posing in Muncie as the "New York Doctors," on learning that complaints against them had been filed by the State Board of Medical Registration and Examination, left town suddenly.

Personal.—Dr. and Mrs. Adian E. Fauve, Indianapolis, have sailed for Europe.——Dr. Hugo O. Pantzer, Indianapolis, has gone to Europe for the summer.——Dr. and Mrs. Emanuel Masgana, Alexandria, sailed for Havre on *La Gascogne*, June 16.——Dr. Mavity J. Spencer, city sanitarian of Indianapolis, has resigned.

Disease and Death.—The monthly bulletin of the State Board of Health says that the state health was better in May than in April, but not so good as in May, 1903. Tonsillitis was the most prevalent disease; rheumatism was the second most prevalent, while pneumonia, which was fourth in April, fell to seventh place in May. The deaths from this disease were 319 in May and 557 in April. The total number of deaths reported was 2,971, an annual rate of 13.1 per 1,000. In the preceding month there were 3,322 deaths, a rate of 15.2 per 1,000. In May, 1903, there were 2,421 deaths, a rate of 11.3 per 1,000. Of the total deaths 552 were under 5 years of age. Some important causes of death were: Consumption, 415; typhoid fever, 49; diphtheria, 20; scarlet fever, 14; measles, 34; whooping cough, 5; pneumonia, 319; diarrheal diseases, 31; cerebrospinal meningitis, 34; influenza, 17; puerperal fever, 17; cancer, 95; violence, 149; smallpox, 6. There were 259 cases of smallpox reported from 36 counties. In the corresponding month last year there were 579 cases, with 10 deaths from 59 counties. The cities show the highest death rate in the following diseases: Tuberculosis, typhoid fever, diphtheria, scarlet fever, pneumonia, diarrheal diseases, cancer and violence. Only in measles does the death rate appear higher in the country than in the cities.

IOWA.

County Society to Care for Poor.—The supervisors of Calhoun County have entered into a contract with the county medical society to furnish medical care and medicines for the next year for $1,200, the service to be rendered in each case by the nearest physician who is a member of the society.

Women Elect Officers.—At the recent meeting of the State Society of Iowa Medical Women the following officers were elected: Dr. Mary D. Ardery, Knoxville, president; Drs. Anne Burnett, Mount Pleasant, and Jennie G. Ghrist, Ames, vice-presidents; Dr. Lillian Kinnier, Dubuque, secretary, and Dr. Sophie H. Scott, Des Moines, treasurer.

Personal.—Dr. James W. Dalby, Cedar Rapids, has resigned as professor of ophthalmology in the state university, Iowa City.——Dr. and Mrs. Henry R. Amos, Charles City, have returned from Europe.——Dr. J. Earl Cox, Belle Plaine, has returned after a year in the West.——Dr. and Mrs. William Jepson, Sioux City, sailed for Europe June 11.

Sioux City Faculty Changes.—Two new chairs have been established in the Sioux City College of Medicine; orthopedic surgery and genitourinary surgery, the latter filled by Dr. William S. Thorp. Dr. Fred C. Brechan was made professor of

physiology, and Dr. John A. Thompson instructor in osteology and demonstrator of anatomy and syndesmology.

MARYLAND.

A Physician and July Fourth.—Dr. Harry S. Jarrett, Towson, had his hand torn by the premature explosion of a giant cracker on July 4.

Gift to Consumption Hospital.—Mrs. Nelson Perin has given to the Hospital for Consumptives, Towson, a sum of money sufficient for the care of six patients in that institution.

Summer Hospitals Open.—St. Lukeland Convalescent Sanitarium is open for the summer near Baltimore.——The summer annex of the Hospital for Crippled and Deformed Children has been opened at Blue Ridge Summit. Tents have been placed on the lawn to accommodate the overflow.

Baltimore.

The fund for the relief of widows and orphans of deceased members of the Medical and Chirurgical Faculty, started a few weeks ago, now amounts to nearly $800.

Vaccination.—The health commissioner reports over 18,000 persons vaccinated by the extra force of vaccine physicians during June, and estimates that there are 150,000 people in Baltimore who have never been vaccinated. The board of estimates has allowed him $1,175 from the contingent fund to continue the work of vaccinating during July.

Hospital To Be Enlarged.—St. Joseph's Hospital will be enlarged by an annex 52x116 feet and three stories high. It will be connected to the present north wing by a one-story structure 22x82 feet. In the basement will be a preparation room, operating room, dining room and nurses' room. On the first floor will be seven ward rooms, parlor, office, clothes room and hall. The second floor will contain ten nurses' rooms, library, lecture room, parlor and kitchen. A large ward for contagious diseases will occupy the entire third floor. The connecting structure will contain a room for old men and another for nurses.

Hydrophobia Treatment Report.—Dr. N. G. Keirle, superintendent of the Pasteur Institute of the City Hospital, reports 500 cases treated, with only 1 death after the patient had received the full treatment—a man suffering with Bright's disease. Three hundred and forty-one were bitten by animals proved to be rabid. Of the total 367 were males and 133 females. Children under 10, 177. A calf, a pet pig, five cows, six horses and four human beings bit those who came for treatment. Dogs were responsible for 439 cases, and in 16 persons the disease was not the result of bites. The patients came chiefly from Maryland and points south of it. The institute was founded through the instrumentality of the College of Physicians and Surgeons in 1897.

Fight Tuberculosis.—The Johns Hopkins Hospital will commence a systematic fight against tuberculosis. Ten thousand dollars of the Phipps donation will be used in building a dispensary, two stories, 30x35 feet. On the first floor will be a reception room and three examining rooms. On the second a library and several rooms for scientific work. Guinea-pigs will be kept on hand for inoculation. It is hoped to attract patients in the very inception of the disease, and thus secure better results than heretofore. Patients will be visited at their homes when too ill to come out, and the sanitation of such homes will receive special attention. The co-operation of the Association for the Improvement of the Condition of the Poor will be secured, and thus proper diet provided.

MISSOURI.

Dr. Crow's Estate.—The estate of the late Dr. Asbury M. Crow, Kansas City, has an appraised value of $30,200.

Personal.—Dr. Edward R. Churchill, Nevada, has been appointed surgeon-major of the Second Infantry, M. N. G., vice Dr. William W. Rodman, Pierce City, resigned.

Dr. Lewis Not Seriously Injured.—Dr. Bransford Lewis, St. Louis, who was injured by a runaway horse, June 25, will be able to be about again in a week or two. Contrary to first reports, no bones were broken nor internal injuries received.

NEW JERSEY.

Anti-spitting Crusade.—The State Board of Health has commenced an anti-spitting crusade in all the railroads throughout the state.

No Rebate of Taxes for Cooper Hospital.—The council of Merchantville has refused to allow a rebate on taxes against the Cooper Hospital, Camden. The appeal for a rebate followed the recent decision of the court denying the hospital exemption. The taxes amount to $1,789.

Personal.—Dr. H. Z. O'Brien has been appointed to the resident staff of the Cooper Hospital, Camden.——Dr. George C. Laws has been appointed medical inspector of the Paulsboro Board of Health.——Dr. Hiram Williams has been elected health officer of Passaic, vice Dr. John N. Ryan.

Medical Examination.—The State Medical Examining Board conducted the examination of 53 candidates July 5 to 8. At the annual meeting of the board the following officers were elected: President, William H. Shipps, Bordentown; secretary, Dr. E. L. B. Godfrey, Camden; treasurer, Dr. Charles A. Grove, East Orange.

New Jersey State Society.—At the one hundred and thirty-eighth annual meeting of the Medical Society of the State of New Jersey, held in Atlantic City, June 4 to 6, the following officers were elected: President, Dr. Walter B. Johnson, Paterson; vice-presidents, Drs. Henry W. Elmer, Bridgton, Alexander Marcy, Riverton, and Edward J. Ill, Newark; corresponding secretary, Dr. Ellis W. Hedges, Plainfield; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Dr. Archibald Mercer, Newark.

NEW YORK.

Anthrax in Northern New York.—Prof. Moore, bacteriologist of the State Veterinary College, and Dr. William H. Kelley, chief state veterinarian, have completed an investigation of the disease that has caused the death of a large number of cattle in the eastern part of St. Lawrence County, and pronounce it anthrax. Tuberculosis was also found among the cattle near Canton.

New York City.

Personal.—Dr. and Mrs. John A. Fordyce sailed on the *Deutschland*, for Cherbourg on July 6.——Dr. William R. Pryor, professor of gynecology at the New York Polyclinic Hospital, has been appointed attending gynecologist to St Vincent's Hospital.

Summer Corps of Physicians.—Ninety-five physicians appointed as a special summer corps by the board of health have started on their work of caring for the sick children of the tenements. In addition to prescribing for sick babies they give tickets to the mothers to take their children on the St John Guild boat and also for milk from the Straus depots.

Contagious Diseases.—There have been reported to the sanitary bureau of this city for the week ending July 2, 1904, 369 cases of measles, with 23 deaths; 386 cases of diphtheria and croup, with 50 deaths; 130 cases of scarlet fever, with 9 deaths; 61 cases of varicella; 1 case of smallpox, with 1 death; 330 cases of tuberculosis, with 150 deaths; 33 cases of typhoid fever, with 12 deaths; and 39 deaths from cerebro-spinal meningitis.

Buffalo.

Gift to Buffalo General Hospital.—This hospital has been given $5,000 by Mr. R. B. Adam.

New Quarantine Hospital Started.—Ground has been broken for the new $50,000 quarantine hospital.

German Hospital Officers.—The German Hospital elected officers as follows: President, Dr. C. A. W. Auel; vice-president, Dr. Marcel Hartwig; secretary, Dr. Frederick Zingsheim.

July Fourth Casualties Cause Tardy Action.—As a result of many fatalities in Buffalo from pistol wounds and explosives on the Fourth of July, a resolution has been offered in the city council prohibiting the sale of toy pistols and giant crackers.

PENNSYLVANIA.

Smallpox at Hopedale.—Three cases of smallpox are reported in as many families at Hopedale, near Lancaster.

Personal.—Dr. Joseph K. Weaver, Norristown, has been appointed a member of the Montgomery County Board of Prison Inspectors, vice Dr. George M. Stiles, Conshohocken, deceased.

To Pay for Insane Patients.—Efforts are being made to receive remuneration from patients being treated free of charge in the insane hospital who are in a position to pay. Several hundred letters have been sent to relatives of persons confined in the State Insane Asylum at Norristown to ascertain whether they are able to pay for the maintenance of the inmates.

Philadelphia.

Germantown Hospital.—Ground has been broken for a new

pathologic laboratory for the Germantown Hospital. The building will cost $25,000, and is erected by Mrs. John B. McIlhenny as a memorial of her deceased daughter. The new private department of the hospital has been completed at a cost of $100,000, and will be opened for the admission of patients on July 25.

Last Smallpox Quarantine Raised.—For the first time in three years the city this week was entirely free from smallpox quarantine. Despite this fact, the vigilance of the health authorities will not be relaxed. Medical inspectors to the number of 25 will be on continuous duty during the summer months, and will be expected to report about 4,000 vaccinations a week. The records of the health bureau show that 400,000 persons have been vaccinated since the outbreak began in 1901.

Health Reported Good.—The general health of the city is good. There is a progressive decrease of contagious disease; 127 cases of contagious disease were reported for the week, with 13 deaths, as against 137, with 24 deaths, for the previous week. The total death rate was 444. This was a decrease of 59 over the preceding seven days, and a decrease of 132 for the corresponding period of last year. The infant mortality numbered 107, as follows: diarrhea under 2 years, 98; diarrhea, 2 years and over. 7; inanition, 2.

Health of School Children Better.—The report of the medical inspection from the public schools discloses the fact that 3,157 less pupils were excluded from attendance in the schools during the month of May than in April. The first report of the inspectors shows that 4,956 children had been refused admittance, either because they themselves were suffering from contagious disease, or on account of such an ailment being present in their homes. The report received for the month of May contained only 1,799 names. It was stated in the report that there was a notable decrease in tuberculous cases, and that the general health of the children was better.

Aftermath of Fourth of July.—A canvass of the hospitals of the city the day following the Fourth showed a total of injured from the use of explosives of 532. On the day following the total rose to 700. Two deaths were reported. Last year there were 500 injured and treated in the hospitals and no deaths were reported. The records show the injuries resulted from the following causes; toy cannon, 40; toy pistol, 57; blank cartridges, 49; gunpowder, 175; dynamite crackers, 143; cartridge canes, 28; fireworks, 40. It will be noted that the new Fourth of July implement, the cartridge cane, reaped its number of victims. Until the closing hour of the Bureau of Health, July 8, no cases of tetanus had been reported as the result of the Fourth of July celebration.

GENERAL.

Mississippi Valley Medical Association.—The thirtieth annual session of this body will be held in Cincinnati, October 11-13, 1904, under the presidency of Dr. Hugh T. Patrick of Chicago. The headquarters and meeting places will be at the Grand Hotel. The annual orations will be delivered by Dr. Wm. J. Mayo of Rochester, Minn., in surgery, and Dr. C. Travis Drennen of Hot Springs, Ark., in medicine. Further information can be had of the secretary, Dr. Henry Enos Tuley, Louisville, Ky., or the assistant secretary, Dr. S. C. Stanton, 55 State Street, Chicago.

American Electro-Therapeutic Association.—The fourteenth annual meeting of this association will be held at the Inside Inn, St. Louis, Sept. 13-16, 1904. The scientific sessions will be held only in the mornings, leaving the afternoons free in which to visit the fair. There will also be held in St. Louis, September 8-17, the annual convention of the American Roentgen Ray Society and the convention of the International Electrical Congress. Interesting programs have been prepared. Further information may be had of the secretary, Dr. Clarence Edward Skinner, New Haven, Conn. The committee on arrangements consists of Drs. C. H. Hughes, chairman; A. V. L. Brokaw, John Young Brown, C. G. Chaddock, Pinckney French, Marc Ray Hughes, B. M. Hypes, L. H. Laidley, and W. G. Moore, of St. Louis.

The American Society of Tropical Medicine was incorporated in Philadelphia, July. The officers are: President, Dr. Thomas H. Fenton, Philadelphia; vice-presidents, Dr. James Anders, Philadelphia, and Dr. I. G. Kinyon, Glenolden, Pa.; secretary, Dr. Joseph McFarland, Philadelphia; assistant secretary, Dr. John M. Swan, Philadelphia; treasurer, Dr. Wharton Sinkler; council: Drs. R. G. Curtin, Judson Daland, Allen J. Smith, and W. M. L. Coplin. The men elected to honorary membership for valuable research work in the prevention of tropical diseases are as follows: Surgeon-General William H. Forwood; Rear-Admiral Surgeon P. M. Rixey, Dr. Walter Wyman, Sir Patrick Manson of England, Dr. A. Laveran of the Pasteur Institute, France; Prof. Robert Koch, Germany; Prof. Charles J. Martin, Sydney, N. S. W.; Prof. Aristides Agramonte, University of Havana, Cuba; Dr. Frederick Montazambert, chief health officer of the Dominion of Canada; Prof. Kitasato, University of Tokio, and Prof. Eduardo Liceaga, head of the department of health, Mexico.

CANADA.

Personal.—Dr. N. P. Grant of Woodstock, N. B., has been appointed superintendent of the St. John General Hospital, and will have as his assistant Dr. J. S. Bentley of Truro, N. S.

Manitoba Medical College.—The faculty of the Manitoba Medical College have just secured a site for a new college building, which it is proposed to erect in Winnipeg. It is to be located near the General Hospital, and will be completed during the term of 1905-6.

The College of Physicians and Surgeons of the province of Quebec held its annual meeting in Montreal during the last week, when licenses were granted to fifty members of the profession who had not so far observed the necessary formalities. The financial report showed receipts of $8,799.69, and expenses of $4,510.06.

Civic Milk Dispensaries in Montreal.—It is proposed to establish in different parts of the city of Montreal dispensaries or depots where milk could be got from the surrounding country districts and distributed to citizens. It is thought that in this way much could be done toward curtailing the enormous infant mortality which occurs annually in Montreal during the summer months.

Health Inspection of Quebec Schools.—Dr. C. S. Vallin, professor of hygiene at the University of Laval, is reviving the movement for the medical inspection of schools in the province of Quebec. From the results of recent observations he has made he is assured that in no place in the world would the advantages of such inspection be found to be of greater use to society generally than in Quebec.

Infant Mortality in Montreal.—Over 100 infants died last week in Montreal. The total death rate for the city, which was much above the average, was 186; 71 were below six months' of age, and 33 were between six and twelve months, and ten between one and two years. Dr. Laberge, the medical health officer, urges a society to instruct young mothers how to take care of their offspring.

The Provincial Jubilee Hospital of Victoria, B. C.—The fourteenth annual meeting of the Jubilee Hospital of Victoria, B. C., was held last week in that city. The building and completion of the Strathcona wing is the most important addition to the hospital since its foundation. Of the total cost of this wing, $12,812, $5,000 was contributed by Lord Strathcona. The expenditure of $33,044 was several thousands in excess of the previous year, due principally to improvements and increased cost of supplies. During the year the hospital treated city patients averaging a total stay of 9,000 days at a cost of $1.66 per day.

FOREIGN.

Rabl Called to Leipsic.—Professor Karl Rabl of Prague has accepted a call to Leipsic as successor to the late Professor His in the chair of anatomy. Rabl is a son-in-law of Virchow.

Lorenz Entertains.—Professor Dr. Lorenz a few days ago entertained 70 members of the Anglo-American Medical Society and their wives at his new country home at Greifenstein on the Danube.

Serum Prophylaxis of Intestinal Diseases at the Seat of War.—The members of the sanitary service, leaving Moscow for the seat of war, all received prophylactic injections against dysentery and typhoid serum. The latter caused always a febrile reaction, lasting about four days.

Woman Physician President of Neurologic Society.—We learn that Miss Joteyko of Brussels has been elected vice-president of the Belgian Neurological Society, and will thus be its president next year. She has charge of the psychologic research conducted at the Brussels University.

City Physician to the Schools.—Mannheim is the first German city to appropriate funds to pay the salary of a school physician who is to devote his entire time to the work and not attempt any private practice. The salary is stated variously in our German exchanges as $1,250 and $2,500.

Mortality in India During the Last Decade.—One of our exchanges has computed that twenty-five millions of persons have perished in India during the ten years 1894 to 1904, from plague, famine or cholera.

Medical School Inspectors at Leipsic.—Eighteen physicians have been appointed inspectors of the Leipsic schools. The remuneration for their services ranges from $62 to $112, according to the number of children in the school.

Italian Congress of Pediatrics.—The fifth Italian congress of pediatrics will be held at Rome in October. The subjects appointed for discussion are "Tuberculosis in Children" and "Infantile Anemia." Professor Concetti is to preside, while Professor Valagussa is secretary, and Pagliari treasurer.

Production of Diphtheria Serum in Germany.—It is stated in our German exchanges that von Behring has organized a company to produce antidiphtheria serum, the company to be known as "Behringwerk." The serum will be sold at much lower prices than have hitherto prevailed in Germany.

Festchrift for Bozzolo of Turin.—May 22 was the twenty-fifth anniversary of the day when Professor Bozzolo assumed the chair of medicine at Turin. His friends and pupils presented him with a silver plaque and a *Festschrift* containing articles by his former assistants, Mya, Graziadei, Silva, Belfanti and others. Bozzolo was the first to describe ankylostomiasis and outline treatment.

International Sanitary Congress for 1906.—The executive committee of this congress, which has been organized to convene at Milan in 1906, has appointed a special committee for the subject of tuberculosis. It has been subdivided into five sections, one each for the diffusion, etiology, prophylaxis, institutions for prophylactic aid and legislation in regard to tuberculosis from the sanitary and social points of view.

Results of School Inspection at Berlin.—The thirty-six school inspectors of Berlin examined 15,000 children entering school for the first time this spring. About 10 per cent. were found defective, and the entrance on school life was deferred. Of this number about a quarter suffered from general debility, 16 per cent. were convalescing from some serious sickness; 5 per cent. were tuberculous, and 15 per cent. suffered from scrofula, severe anemia or rachitis. About 10 per cent. were mentally defective.

Monument to Panas.—The eye clinic at the Hotel Dieu at Paris was organized by the efforts of Panas, and he was the first incumbent of the chair of ophthalmology founded also in response to his pleading. A monument has been erected to his memory in the hall of the clinic where for twenty years he had divided his time between his patients and his students. The ceremonies were impressive as the memorial was unveiled to this son of Greece, who contributed to the fame of his adopted country.

Campaign Against Alcoholism in Turkey.—The *Presse Médicale* states that about two years ago the Sultan prohibited the consumption of alcoholic drinks in all the public establishments. The beneficial results of this measure are seen by the statistics published from Pera, the most important suburb of Constantinople. The number of murders has dropped from 23 in 1902 to 15 in 1903, while the arrests for drunkenness have fallen from 680 to 188. The restriction applies only to Mahomedans.

Segregation of Tuberculous Prisoners.—The Austrian authorities have issued a decree enforcing the separation of prisoners exhibiting symptoms of tuberculosis. They must be given work commensurate to their condition, and must not be set at tasks in closed rooms with other persons. In chapel, school and out of doors, the tuberculous and the suspects must not come in contact with the non-tuberculous. Certain cells must be set apart for the exclusive use of the tuberculous, and their washing, reading matter and tools be kept separate.

Rebuilding the Vienna General Hospital.—After long deliberation and delay the construction of the new clinics, laboratories and special institutes which are to take the place of the historic General Hospital at Vienna, has finally been commenced. The cornerstone was laid by the emperor of the realm, June 21, with appropriate ceremonies, and a brilliant gathering of scientists and leading officials, including the prime minister. The grounds are ample, and it is proposed to have the institution the largest of its kind in the world, with facilities for all branches of the medical sciences.

Physicians Mayors of French Cities.—Twenty-one physicians were elected mayors of their respective cities during the recent elections in France, and seven assistant mayors. Dr. Augagneur has made a brilliant record during his several terms of service as mayor of Lyons, and his re-election was a matter of course. His nickname in the town is "the emperor." Pozzi was elected mayor of Reims, and Combes, the premier of France, was elected mayor of his home city, Pons. Only two medical candidates for the office of mayor were defeated throughout the country.

Semi-Centennial of the Gorbersdorf Sanatorium.—In 1854 a young physician at Görbersdorf, Dr. H. Brehmer, aroused the medical world by his announcement that he was convinced that tuberculosis was curable. He proceeded to open a sanatorium for the reception and treatment of tuberculous subjects only—the first of its kind in the world. Before he died in 1889 he had the satisfaction of seeing his opinion in regard to the curability of tuberculosis accepted the world over, and countless sanatoria founded in imitation of his own, which celebrated its semi-centennial this week with much ceremony.

Medicine at the Paris Salon.—Two of the paintings at the recent Salon, portraying medical subjects, have already been popularized on picture postal cards. One is called "Croup in 1904," and represents Dr. Josias performing intubation on a child at the Bretonneau Hospital. Around him are ranged nine of the other physicians in charge, all portraits. The other is "The Anatomy Lesson," and portrays Dr. Richet, the artist-physician, who is professor of anatomy at the Ecole des Beaux-Arts, demonstrating the arm of a cadaver. Both are fine paintings. Another, entitled "The Drunkard" has been reproduced as a poster by a temperance society.

The Hypnotized Dancer.—THE JOURNAL mentioned on page 1,327 of the last volume the trance dancer, who has attracted considerable attention in medical circles abroad. She appeared in London in June, and the representative of the *Lancet* attended her two performances. During the intervals of dancing she was found in a cataleptic condition, the pupils contracted, eyeballs converged and pupil reaction sluggish. He was convinced that the hypnosis was genuine, and remarks that her skill, grace and animation while dancing under the influence of the music and the apparent visual hallucinations form a very interesting performance, especially for the psychologist.

French Physicians Fined.—Dr. Waitz of Roanne has been sentenced to pay $100 on account of the death of a patient under treatment for hydrocele. The latter succumbed soon after injection of a powerful solution of cocain.——Dr. Huart of Lille, has been fined $200 for signing a certificate of insanity on insufficient grounds. The patient on his release sued his wife, the mayor of the town, and Dr. Huart for his alleged needless detention. The court placed the entire responsibility on the physician and dismissed the suits against the others.—Another physician has been fined for associating a somnambulist with him in his office practice. The suit in this case was brought by a medical society.

How Physicians Aid Charlatans.—A writer in the *Corr. Blt. f. Schweizer Aerzte* comments on a "nature healers'" congress which he recently attended. He found that great stress was laid on the disparaging criticism of one physician by another, of which the "nature healers" cited many examples. Any criticism of his medical predecessor by a physician is playing directly into the hands of charlatans, as it undermines the confidence of the public in the profession. "How easy it would be," he says, "to explain a change in the diagnosis or treatment by the development, the progress of the disease, and thus protect the reputation of his predecessor and strengthen the patient's tottering faith in the profession." He adds, also that we must impress on the public the fact that the medical profession is versed in the so-called "nature" methods, hydrotherapy, etc.

Society to Provide Country Sanatoria for Children.—The German sanatorium system has not hitherto been completed by convalescent homes for children. Sanatoria of this kind for tuberculous children and for those who have undergone operations are numerous in France, which has taken the lead in this respect. The Germans have long felt the need of similar institutions. We learn that during 1902 there were 1,300 children with surgical tuberculosis kept in the Berlin hospitals. A society has now been organized to erect country sanatoria for such children, and the erection of one near Berlin has already been commenced. Some of the larger German cities have been gratified by the success of the open-air resorts provided for tuberculous persons of all ages. These are merely day resorts, like picnic grounds, but a physician and nurses are in attendance, and a nourishing lunch is provided at a nominal expense. They are established in accessible out-lying groves for each division of the city.

Prevention of Old Age.—Metchnikoff's ideas in regard to the possibility of preventing the inroads of old age have been referred to several times in THE JOURNAL, as, for instance, on page 408 of volume xl. He regards old age as a pathologic—not a physiologic—process. It is a struggle between the "noble" and the simple or primitive elements of the organism. Such a struggle occurs in certain chronic diseases, but in old age it is a more general process. The phagocytes are the guardians of the body until a certain age is reached, and then they turn and rend it. They absorb the "noble" elements and leave connective tissue in their place. He believes that there is a prospect that specific serums may be produced by inoculation of animals, which will have an elective action on man and possibly strengthen the "noble" elements while checking the aggressive tendency of the phagocytes. When this can be done, senility will be prevented. He has further promulgated the idea that the large intestine is an unnecessary part of the economy, and can well be dispensed with, as a cesspool which is a constant menace to the economy, a useless legacy from our remote ancestors. The *British Medical Journal* of June 25 reviews his book recently published on the prevention of old age, and adds that his suggestion in regard to dispensing with the intestinal cesspool has already been acted on by W. Arbuthnot Lane for the cure of obstinate constipation in 2 severe cases, uniting the ileum with the rectum or sigmoid. He asserts that the principle involved in cutting off from the intestinal tract almost the entire length of the large bowel, which in a certain class of persons is much more dangerous than useful, will have a very extensive application in future in surgical practice. His communication was published in the *Lancet* of Jan. 2, 1904.

LONDON LETTER.

Cancer Research in Liverpool.

A cancer research fund has been established in Liverpool by the munificence of a donor who gave $50,000 as a memorial to his deceased wife. This is administered by a committee, consisting of Professor Carter, Dr. Barr, Professor Rushton Parker, Prof. F. F. Paul, Prof. R. Boyce and Prof. C. L. Sherrington. A room to serve as a ward laboratory was established for research at the Liverpool Royal Infirmary, where also a number of beds were set aside for the clinical observation of cancer. The council of the University of Liverpool also granted the use of five large rooms in its laboratories for the prosecution of the inquiry. Dr. A. S. Grünbaum was appointed director of the research. He has just issued an interim report, which covers a period somewhat less than a year. Experiments were made with the cytolytic milk of a cow, and when it yielded no more milk, with its serum. Of 2 cases of cancer of the breast so treated, one was apparently arrested. Three cases of uterine cancer are being treated with horse serum. They all show signs of improvement. Another branch of the inquiry is directed toward the discovery of the cause of cancer. Dr. Grünbaum thinks that combination of causes, and perhaps not always the same combination, is necessary. If once a strain of human cancer can be secured, he says, we shall be appreciably nearer the goal. In the work both the developmental and parasitic hypotheses are kept in view. The recent evidence of the London observations in favor of a germinal theory (described in THE JOURNAL) raises the hope that a comparatively simple physiologic cure may be possible, for experimental embryologists can, by simple means, alter the development of germinal cells. To promote interest in the inquiry, 2,000 circulars were sent out to doctors in the north of England and 1,000 to veterinary surgeons. But the responses have not been encouraging. A large number of tumors have been received from various hospitals for examination. Several, mostly malignant, from the horse, cow, sheep, dog, pig, cat, mouse and trout, have also been received.

An Artery-Forceps Left in the Abdominal Cavity.

Considerable sensation has been created in the lay press by an inquest on a woman who underwent laparotomy for ruptured tubal pregnancy in whose abdomen a forceps was left behind. She was admitted to hospital suffering from ruptured tubal pregnancy and was operated on by a well-known surgeon. She was in such a critical condition that the operation had to be performed in great haste. Eight or ten forceps had to be used. She rallied and recovered from the operation. Five weeks later, her condition being unsatisfactory, laparotomy was again performed and a pair of four-inch forceps were found in the pelvis. Two days later she died. The evidence given at the inquest by the pathologist who performed the necropsy was that death was accelerated by the forceps. It was the system at the hospital to count the instruments, sponges and swabs before and after operations. At this operation when the sponges were counted one was missing and was afterward found in the abdominal cavity. This event seems to have prevented the idea occurring to anyone that an instrument might also be missing, and in the hurry the instruments were not re-counted. For the duty of counting the instruments the sister in charge of the operation theater was responsible. Sir Thomas Smith and Sir Victor Horsley gave evidence that the surgeon who performed the operation was careful, conscientious, and skilful, and that in emergency operations of this kind such accidents had occurred before and would no doubt occur again. Sir V. Horsley said he had known forceps to have been left in a patient for several days, and that if sterilized they would do no harm. The jury returned a verdict of "Death from misadventure, due to peritonitis following an operation, accelerated by the presence of the forceps" and added the rider "We consider the system at the hospital is largely at fault, and suggest that in future all instruments should be numbered and counted before and after each operation."

PARIS LETTER.

Medical Mutuality in France.

The Society of Physicians of the Seine Department held its annual meeting last March, and it is interesting to note how much is done by this society, which is established to help the families of physicians who are ill or who die without leaving any fortune. This society numbers 587 members, who are mostly practitioners in Paris. The annual fees are 20 francs, and each new member must pay an entrance fee of 12 francs. During the last seventeen years over 800,000 francs have been distributed to about 1,000 physicians or members of their family. A certain amount of this, about 80,000 francs, was given to physicians not belonging to the Association. The first president of the association, Orfila, described in his address some of the cases which are helped, such as a doctor suffering from blindness, who fell into the deepest poverty; a young surgeon of the hospitals who died recently and whose parents could not be placed in an asylum because they were not sufficiently old; a member of the Académie de Médecine, who died and left his family without any resources. This is just as true to-day as in 1833.

Abstinence from Salt for Two Years.

At a recent meeting of the Swiss Society of Medecine of the Canton of Vaud, Dr. Forel read a report on a settlement of vegetarians near Locama on the Lago Maggiore. The people living in this settlement do not take any salt, and drink no water. Two of the members of the community, a man 50 years old and a woman 25 years old, have taken no salt for over two years, and are still in good health. The food consists simply of vegetables.

Starvation as Preparation for Operation.

Dr. Pauchet of Amiens, who has operated on a number of cases of fibroid of the uterus, has counseled preparing the patient for the operation by giving her nothing but water for four or five days before the operation, and by cleansing the intestine by means of purgatives and oil enemas. The abdomen is thereby rendered very flat and there is no distension by gas.

Correlation of Blindness and Usual Symptoms of Locomotor Ataxia.

It is generally thought that when a patient suffering from locomotor ataxia becomes blind, the other symptoms of the disease such as shooting pains or the ataxia do not appear or have no tendency to increase. The well-known nerve specialist, Dr. Pierre Marie, does not admit this, and has recently demonstrated this by statistics based on 45 cases of blindness in locomotor ataxia. In 32 cases where the patient was already blind, the pains came on in 16 cases after an interval of only a few months in some cases. In others the pains came on nine, ten, or twelve years before the blindness. When the blindness came on rather late after the appearance of the shooting pains, the pains disappeared in only three cases out of 16, and then only after a long period of time, such as is seen in most cases. In six amaurotic patients the pains were still as acute after eight, eleven, twelve, seventeen and twenty years. As for the ataxic symptoms they have not seemed influenced in any manner, appearing before or after the eye trouble. Dr. Marie concludes that it is impossible to consider that the blindness can have any effect on the other symptoms of locomotor ataxia.

Correspondence.

Pregnancy Following Double Ovariotomy.

CHICAGO, June 26, 1904.

To the Editor:—Having read the report of I. W. Hunter's article on "Pregnancy Following Double Ovariotomy," in the *Medical Age*, Detroit, of recent date, I can not resist the temptation to offer my opinion as explaining the phenomenon of fecundation of an ovum, after extirpation of ovaries and tubes in a given case.

We know from experience that pregnancy can and does take place in a woman who has had performed ovariectomy and salpingectomy, unilateral or bilateral.

We know that cases such as this have occurred where a woman has conceived and become pregnant after having but one single congress with her husband, as the sailor who had to leave home immediately after his marriage. This statement, at first sight, may seem to have no bearing on the subject at issue, but before concluding the reader will see its connection.

We know that after the ovum matures and rupture of the graafian follicle takes place, that the ovum continues along the canal outward toward the fimbriated extremity where it fertilizes. After resting here for a while, it takes its inward course, propelled by the peristaltic movements of the tube and its own flagellation, meeting the wandering spermatozoon, which it receives within its integrity.

At or near the internal atrium of the tube, this impregnated ovum rests for an indefinite period before it escapes into the lumen of the fundus uteri, where it experiences the changes concomitant with its fixation to the mucosa.

We know that the mucosa of the tube is wrinkled, or thrown up into folds, longitudinal and oblique, this fact entailing the necessary formation of little valleys or depressions, in which an ovum may rest with perfect safety from any disturbing mechanical agency.

In such cases where the adnexa have been totally, presumably so, extirpated, and the ovum has already become impregnated and has not yet reached the uterine cavity, or an unimpregnated ovum has rested for some time in one of these minute valleys, and afterward, due to this mechanical stimulus, introduced at time of operation, has met with a wandering spermatozoon, and incorporated it and passed on to the stage of fecundation.

For the experience of such men as Minot, Dalton, Wagner, and others, shows us that an ovum or spermatozoa, after having left or separated themselves from their original sources, may and do exist within the genital tract of the female, for periods from one day up to three and four weeks, all the time subsisting on the natural fluids and lymph derived from the rich blood supply of the mucosa, which reaches them by an osmotic process.

Furthermore, how many operators do actually extirpate every vestige of a true fallopian tube? One must bear in mind the anatomic construction of these organs. The tube itself does not stop at the plane of the junction of the serous investments of fundus and tube. The mucosa of the tube goes well into the body of the uterus, and this means that there are those villi formations there also, to which I have referred.

My opinion is that if operators would make a wedge-shaped or cone-shaped incision in the wall of the uterus when removing the adnexa, even going so far as to remove the entire cornua of the organ, that we would hear no more of such occurrences as have given food for thought or argument in basing the subject matter on such grounds.

63 E. Chicago Avenue. R. L. LARSEN.

One Instance of Dirty Money.

INDIANAPOLIS, July 7, 1904.

To the Editor:—Your short editorial on "Dirty Money" is timely. It is likely there is more infection from paper money than is ordinarily supposed. An instance bears this out to a degree. I was called to see a case of eruptive disease in a house of prostitution. The patient was a syphilitic and had unquestioned smallpox. She was compelled to remove her stockings, which she did reluctantly, and this disclosed a number of bills of different denomination wrapped around her legs, the stockings being drawn over them. Some of the bills adhered because of exudate, it being necessary to moisten them to effect removal. She stated she had intended to deposit the money in the bank, but was taken sick and could not. The bills were laid one at a time in a cigar box and each one was liberally sprinkled with formaldehyd, and they eventually proceeded on their circulatory way. J. N. HURTY.

Aseptic Technic—Bacteriologic Examination of Hands.

ROCHESTER, MINN., July 9, 1904.

To the Editor:—In THE JOURNAL, July 2, in the report of the American Surgical Association your reporter has made a slight error, which I beg leave to correct. He reports me as saying that in 213 bacteriologic examinations of the hands in my clinic at the Jefferson Medical College Hospital only three times were the hands infected. It should have been 7, i. e., about 3 per cent. instead of 3 cases. W. W. KEEN.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

TESTIMONIALS CONCERNING MINERAL WATERS.

———, ——., July 7, 1904.

To the Editor:—Is it unethical for physicians to give certificates of their experience in the use of mineral waters, after having thoroughly tested their virtues, or, on the contrary, is it not a common practice of eminent men of the profession? L. C.

ANSWER.—As our correspondent observes, the practice of giving testimonials for mineral waters, etc., is common among physicians, including some who are eminent. Largely it is a matter of taste rather than of ethics, though sooner or later every physician who gives such testimonials finds himself embarrassed by the consequences. Having yielded once it is difficult to refuse a plea for fair treatment made on behalf of some article similar to the first one "puffed." Plural testimonials are mutually conflicting and the giver's friends at once appreciate the ensuing abrupt fall in the market value of his pharmacologic opinions. The ready writer of puffs becomes ridiculous. On the other hand, it is perfectly ethical for a physician, speaking from thorough trial, to tell his fellows that a certain article is good or bad. The difference between this *testimony* and a *testimonial* addressed to the firm is clear. Of course, this report at best stands simply as one man's opinion, open to criticism, discussion and possible refutation. It requires rare discrimination to apprehend the proper occasion for such an expression of opinion and some courage to face the inevitable demands from the friends of some competing article. Professional opinion does not presume to dictate the course of the individual physician in such a matter. However, the Principles of Ethics very wisely advise the circumspect physician to steer clear of *testimonial* writing. In Chapter II, Article I, Section 8, it is advised that "It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines or other substances used therapeutically."

COUNTY SOCIETY ACTION IN CASE OF PLAGIARISM.

———, ——, July 7, 1904.

To the Editor:—I desire to state a hypothetical case for your query column: X, a regular physician, member and officer of the state society, presents to the county society what purports to be an original paper; he forwards it to a reputable medical journal, which publishes it, crediting X with authorship. Later it is discovered by members of the county society to be a rank plagiarism—about 80 per cent. being verbatim copy of a paper by a distinguished eastern physician, and a portion of the remaining 20 per cent. from other uncredited sources. So far X denies all knowledge of the eastern publication. Query: 1. Should the county society take cognizance of the matter? 2. How should it proceed? 3. Suppose X to be a woman of almost ten years' experience in practice, would any different procedure be indicated? INFORMATION.

ANSWER.—1. Yes. 2. If your society has no provision to cover such cases of unprofessional conduct, one method of procedure would be to call a meeting, at which charges should be preferred and reply made, and the society take action accordingly. The accused should be given a copy of the charges in ample time. Secrecy

should be observed, lest, if the charges prove unfounded, irreparable harm be done. 3. We do not see how this alters the case.

IS A SON LIABLE FOR HIS MOTHER'S BILLS?

———, ILL., July 6, 1904.

To the Editor:—What relation does the son, who is married and whose mother resides with him, bear to the expense of the medical treatment of that mother? Can the account be collected from the son? How? Local attorneys seem to be at sea on this point. SUBSCRIBER.

ANSWER.—A search through the law records fails to reveal satisfactory ground for a positive statement. The Illinois Supreme Court has said: The common law "simply goes to the extent of requiring parents to support their offspring until they attain the age of maturity. . . . Nor does any common law obligation impose on a child the legal duty of maintaining an infirm, aged or destitute parent." [People vs. Hill, 163 Ill., 186 (189).] It is provided in the Illinois statutes that "paupers" shall first be supported by the father or children, etc., if they have the ability, before the state is called on to support them. We judge that this is not applicable in our correspondent's case. Perhaps the only ground on which to collect a claim of the son will be a definite or implied promise to pay, or the fact that he has assumed the support of his mother.

RECTAL STRICTURE IN AN INFANT.

REARDAN, WASH., June 29, 1904.

To the Editor—A baby, 6 weeks old, has congenital stricture of the rectum, two inches above the anal orifice. There seems to be a hard, unyielding ring at the lower and left side of the bowel, while above and to the right the ring is soft. I have used a bougie twice a day for two weeks, sizes No. 2 and 3, silken linen, measuring respectively 5/16 and ½ inch in diameter. How long should I continue to dilate? I do not see any improvement. What would be the best operation? Could the Whitehead operation be performed as in hemorrhoids? B. L. STEVENSON, M.D.

ANSWER.—Provided the affection is a true stricture, and not simply an inflammation of one of the rectal folds or valves on one side of the bowel, it should be divulsed and then kept dilated during the healing. We would not advise anything approaching the "Whitehead operation" in a child so young.

SERUM FOR HAY FEVER.

HUNNEWELL, MO., July 11, 1904.

To the Editor:—In THE JOURNAL, April 30, 1904, page 1190, paragraph 53, appears a short article entitled "Serum Treatment of Hay Fever." I would like to ask: 1, How this serum is prepared: 2, how it can be procured: and 3, what is your personal opinion of its use, benefits, etc. L. W. DALLAS.

ANSWER.—A number of communications on the subject of the serum treatment of hay fever have been published in THE JOURNAL, among the latest being the abstracts on pages 858 and 1189 of the last volume. A. W. MacCoy and Lewis S. Somers have also reported their experience with it in this country. (See page 1433, of vol. xli, and pages 401 and 623, of vol. xlii.) Dunbar is director of the Institute of Hygiene at Hamburg, Germany, and states that his serum can be obtained by applying to him.

CAN A PHYSICIAN PRACTICE DENTISTRY?

———, ——, July 2, 1904.

To the Editor:—If a graduate in medicine and a licensed physician should decide to attend lectures in dentistry and make dentistry his specialty, would he be required to go before the dental board of the state in which he is licensed to practice medicine or could he go ahead and practice dentistry the same as if he had made a specialty of the eye, ear, nose and throat, or some other branch? T. T.

ANSWER.—The point raised can be settled by the board of the state. We believe the regular graduate of medicine licensed in a state has the right to practice any specialty he may choose, including dentistry. The only question for the individual is that of qualification.

PENNSYLVANIA DOES NOT RECIPROCATE.

D. WILLIAMS, South Bend, Ind., asks if Pennsylvania reciprocates with New York. Pennsylvania does not reciprocate with any state.

Marriages.

HARRIET ADELE GIGNOUX, M.D., New York City, to Frederick Hulse, June 23.

ELLSWORTH ELIOT, JR., M.D., to Miss Lucy Carter Byrd, both of New York City.

JOHN Y. BENNETT, M.D., to Miss Bertha Crumbaugh, both of Leroy, Ill., June 26.

WILLIAM W. NUHL, M.D., to Miss Laura Lindeman, both of Buffalo, N. Y., June 23.

DANIEL BUCKLEY, M.D., to Miss Nancy Feehan, both of Seattle, Wash., June 28.

MARTIN W. BISSEN, M.D., to Miss Minnie McConnell at Charleston, Ill., June 29.

JOHN G. CUNNINGHAM, M.D., Spokane, Wash., to Miss Claudia Petite of Chicago.

HARRY CLIFTON NEFF, M.D., to Miss Minnie L. Chase, both of Dunkirk, Ohio, June 29.

CHAUNCEY S. KENNEY, M.D., to Miss L. Madge Corns, both of Norcatur, Kan., May 20.

JOHN B. WILLIAMS, M.D., Anderson, Ind., to Miss Eunice Cox, at Anderson, June 20.

CHARLES WILKIN BEEMER, M.D., to Miss Ella Marie Ryan, both of Milwaukee, June 30.

HENRY O. DELANEY, M.D., Beloit, Wis., to Miss Mary Allman of Ivesdale, Ill., June 22.

CHARLES J. SCHRAMM, M.D., to Miss Marie E. Koehl, both of Fayetteville, Texas, June 26.

JEFFERSON B. VAN TINE, M.D., to Miss Marie Louise Ahern both of New York City, June 27.

MARY E. NOONAN, M.D., North Brookfield, Mass., to Patrick H. Rice of New York City, June 22.

HENRY C. DOZIER, M.D., Columbia, S.C., to Miss Olga Dee of Philadelphia, at Columbia, June 21.

CHARLES KIRKLAND ROYS, M.D., New York City, to Miss Mabel Milham of St. Paul, Minn., June 28.

JOSEPH L. PRICE, M.D., Sherman, Ky., to Miss Mattie O'Hara of Williamstown, Ky., at Cincinnati, June 30.

JOSEPH MEADE WHITE, M.D., Fort Thomas, Ky., to Miss Creszensa Lauterwasser of Dayton, Ky., June 29.

MORRILL E. WITHROW, M.D., International Falls, Minn., to Miss Agatha Mahoney of Anoka, Minn., June 29.

WILLIAM HENRY COLEMAN, M.D., Bessemer, Ala., to Miss Mattie Kirkpatrick of Nashville, Tenn., June 29.

JOHN NOBLE ELLISON, M.D., Sardinia, Ohio, to Miss Blanche Gaston Chambers of North Liberty, Ohio, June 22.

JOSIAH SCOTT BROWN, M.D., Chicago, to Miss Henrietta Franceska Mundé, formerly of New York City, July 2.

EDWARD HOBERT MCINTYRE, M.D., Scanlon, Minn., to Miss Grace Annette Gary of Minneapolis, Minn., June 16.

WILLIAM WALLACE WALKER, M.D., New York City, to Miss Ethel Augusta Hornick, at Sioux City, Iowa, June 28.

THEODORE MILLER LEONARD, M.D., Buffalo, N. Y., to Miss Alice Emeline Munger of Cedar Rapids, Iowa, June 21.

LEWIS CURTIS MESSNER, M.D., Potomac Ill., to Miss Martha Kate Everett of Danville, Ill., at Wauwatosa, Wis., June 22.

Deaths.

Theodore Frelinghuysen Breck, M.D. Harvard University Medical School, Boston, 1866, medical examiner of the Second Hampden District of Massachusetts for 27 years; acting assistant surgeon in the Army during the Civil War; a member of the Massachusetts Medical Society, died suddenly at his home in Springfield, Mass., June 25, from myocarditis, aged 59. At his funeral delegations were present from the Hampden District Medical Society, Eastern Hampden Medical Society, the staffs of the Springfield and Mercy hospitals, and the Boston and Albany Railroad.

Mary D. Spackman, M.D. Howard University Medical Department, Washington, D. C., 1872, the first woman to obtain a degree in medicine from a college in the District of Columbia, died May 26. The women physicians of the city met, June 26, and adopted resolutions expressing appreciation of her great services in securing for women physicians the legal right to practice medicine in the District of Columbia.

Peter H. Pursell, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1864, surgeon to the Federal service during the Civil War; until 1902 a practitioner of Cook County, Ill., died recently in St. Louis, aged 65.

Robert A. Dakin, M.D. Harvard University Medical School, Boston, 1869, died at his home in Pugwash, N. S., June 15, after a short illness from cancer of the stomach, aged 68.

John F. Bird, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1843, died at his home in Fox Chase, Philadelphia, June 22, aged 88.

E. L. Applewhite, M.D. Hospital College of Medicine, Louisville, Ky., died from Bright's disease at his home in Tylertown, Miss., June 24, after a long illness.

Chalmers Walker, M.D., formerly of Casey Creek, Ky., died from spinal disease at his home in Macomb, Ill., June 4, after an invalidism of 19 years, aged 50.

Charles P. P. Cameron, M.D. Dalhousie University Medical Faculty, Halifax, N. S., 1902, died at his home in Westville, N. S., May 26, from septicemia.

Quincy A. Shuford, M.D. Jefferson Medical College, Philadelphia, 1849, died at his home in Tyler, Texas, June 26, after an illness of six months, aged 78.

Charles S. Woodward, M.D. New York University, 1892, of New York City, died from pulmonary tuberculosis at Glens Falls, N. Y., June 26, aged 34.

Howard S. Densmore, M.D. College of Physicians and Surgeons, Baltimore, Md., 1892, died recently at his home in Elmsdale, N. S., aged 38.

Louis Albert Aldridge, M.D. University of Maryland, Baltimore, 1872, died suddenly at his home in New Windsor, Md., June 27, aged about 50.

Nehemiah Caverly Twombley, M.D. University of Vermont, Burlington, 1876, died at his home in Strafford Ridge, N. H., June 3, aged 69.

Henry Clay Wells, M.D. Ohio, 1872, died at his home in Tiffin, Ohio, from internal disease of long standing, June 24, aged 59.

Frederick S. Wade, M.D. Bellevue Hospital Medical College, New York City, 1886, died at his home in Port Maitland, N. S., May 26.

Leon Vermette, M.D., died at his home in St. Louis, Que., April 15, aged 65.

Death Abroad.

J. David, M.D., the oldest member of the profession in France, if not in the world, died at Montpellier, June 12, aged 103½. He practiced at Grabels until the age of 98, serving as mayor for many years. Dr. Meurisset of Noyon is now the oldest physician in France, having recently completed his century.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, for the week ending July 9, 1904:

Lyster, Theodore C., asst.-surgeon, relieved from further duty at U. S. Military Academy, West Point, N. Y., and to report to Rear Admiral John G. Walker, U. S. Navy, chairman Isthmian Canal Commission in Washington, D. C., for duty pertaining to the maritime quarantine of Panama and Colon.

Henderson, A. B., asst.-surgeon, having been found by an Army retiring board incapacitated for active service, his retirement from active service is announced this date.

Shortlidge, E. D., asst.-surgeon, reported for duty at Fort Miley, Cal., left U. S. Army General Hospital, Presidio of San Francisco, same date.

Lyster, Wm. J. L., asst.-surgeon, left Fort McDowell, Cal., en route to Murray, near American Lake, Washington, for duty during the maneuvers.

Brooks, Wm. H., asst.-surgeon, reported for duty at Fort Washington, Md., left U. S. Army General Hospital same date, from Washington Barracks, Washington, D. C.

Reynolds, Chas., asst.-surgeon, reported for duty at U. S. Army General Hospital, Washington Barracks, D. C., and assigned to duty in command Co. No. 1, Hospital Corps, Company of Instruction.

Owen, Wm. O., surgeon, sick leave extended one month.

Ebert, R. G., surgeon, ordered to proceed to American Lake, Murray, Washington, for duty in connection with Department maneuvers.

Kulp, John S., asst.-surgeon, left Fort McDowell, Cal., with Company of Instruction No. 2, Hospital Corps, en route to Murray, American Lake, Washington, for duty during the maneuvers.

Howard, D. C., asst.-surgeon, granted thirty days' leave, to take effect on the return of Major Borden, surgeon, from leave.

Edie, Guy L., surgeon, relieved from duty in charge of the sanitary and disbursing division of the office of the Surgeon General of the Army and as disbursing officer of the Medical Department, and assigned to duty as attending surgeon in Washington, D. C.

Girard, Jos. B., asst.-surgeon general, reports being relieved at date from duty as chief surgeon, Department of Texas.

Bratton, Thomas S., asst.-surgeon, reports in charge of chief surgeon's office, Department of Texas.

Grubbs, R. B., asst.-surgeon, reports departure from Fort Wright, Wash., en route to American Lake, Wash., for duty during the maneuvers.

McCall, James H., contract surgeon, left Columbia Arsenal, Tenn., en route to Fort Moultrie, S. C., for duty.

Slater, Ernest F., contract surgeon, granted leave of absence for twenty-five days.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending July 9, 1904:

Miller, J., Jr., asst.-surgeon, detached from the *Denver* and ordered to the *Kentucky*.

Asserson, F. A., asst.-surgeon, detached from the *Kentucky* and ordered to the Navy Yard, New York.

Pryor, J. C., surgeon, commissioned surgeon, with rank of lieutenant commander, from March 3, 1903.

Langhorne, C. D., surgeon, commissioned surgeon, with rank of lieutenant commander, from June 9, 1903.

Farwell, W. G., McLean, N. T., and Grayson, C. T., asst.-surgeons, commissioned asst.-surgeons, with rank of lieutenant, junior grade, from June 28, 1904.

Miller, J., Jr., asst. surgeon, orders to the *Kentucky* revoked; detached from the *Denver* and ordered with the Marine Battalion, isthmus of Panama.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended July 8, 1904:

SMALLPOX—UNITED STATES.

Delaware: Wilmington, June 25-July 2, 1 case.
District of Columbia: Washington, June 18-25, 3 deaths.
Florida: At large, June 18-25, 14 cases.
Georgia: Macon, June 25-July 2, 1 case.
Illinois: Belleville, June 1-30, 7 cases; June 25-July 2, Chicago, 1 case; Danville, 1 case.
Kentucky: Covington, June 25-July 2, 1 case.
Louisiana: New Orleans, June 25-July 2, 5 cases.
Maine: Madawaska region, June 18-25, 18 cases.
Michigan: Detroit, June 14-21, 2 cases; at 88 localities, present.
Missouri: St. Louis, June 25-July 2, 2 cases.
Nebraska: Omaha, June 25-July 2, 4 cases.
New Hampshire: Manchester, June 25-July 2, 1 case.
New York: New York City, June 25-July 2, 1 case, 1 death.
Ohio: Dayton, June 18-July 2, 3 cases, 2 deaths.
Pennsylvania: June 25-July 2, Altoona, 1 case; Philadelphia, 2 cases, 1 death; Steelton, 1 case.
Tennessee: June 25-July 2, Memphis, 4 cases; Nashville, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, June 11-18, 9 cases.
France: Paris, June 11-18, 12 cases, 1 death.
Great Britain: June 4-18, Bradford, 15 cases, 2 deaths; Manchester, 12 cases, 1 death; Bristol, June 11-25, 6 cases; June 4-11, Cardiff, 1 case; Edinburgh, 2 cases; Glasgow, June 17-24, 31 cases, 3 deaths; June 11-18, Liverpool, 1 case; London, 7 cases; Newcastle-on-Tyne, 5 cases; South Shields, 1 case.
India: Bombay, May 31-June 7, 12 deaths; Calcutta, May 28-June 4, 2 deaths; Karachi, May 29-June 5, 1 case.
Panama: Panama, June 12-19, 1 case, 1 death.
Russia: Moscow, June 4-11, 12 cases, 8 deaths; St. Petersburg, June 4-18, 24 cases, 7 deaths; Warsaw, May 14-June 4, 45 deaths.
Spain: Barcelona, May 20-June 20, 27 deaths.
Turkey: Alexandretta, June 4-11, 2 deaths; Beirut, May 28-June 4, present; Constantinople, June 12-19, 7 deaths.

YELLOW FEVER.

Ecuador: Quayaquil, May 25-June 8, 15 deaths.
Mexico: Merida, June 12-18, 7 cases, 1 death; Vera Cruz, June 18-25, 2 cases, 1 death.
Panama: Panama, June 12-19, 1 death.

PLAGUE.

Africa: Johannesburg, April 11-May 7, 2 cases, 3 deaths.
Australia: Brisbane, May 3-21, 7 cases, 2 deaths; Sydney, May 14-21, 1 case.
Egypt: May 21-28, 20 cases, 10 deaths; including Alexandria, 1 case, 1 death; Port Said, 1 case, 1 death.
India: Bombay, May 31-June 7, 78 deaths; Calcutta, May 28-June 4, 70 deaths; Karachi, May 29-June 5, 30 cases, 30 deaths.
Peru: Payta, May 29-June 4, 11 cases, 7 deaths.

CHOLERA.

India: Calcutta, May 28-June 4, 24 deaths; Madras, May 28-June 3, 2 cases.
Turkey: Bahrein Islands, May 10, epidemic.

Miscellany.

Nervous Fever.—E. Kaurin is director of a Norwegian tuberculosis sanatorium, and he writes to the *Tidsskrift f. d. Norske Laegeforening*, No. 1, 1903, to point out a possible source of error in diagnosis. He refers to the influence of the mind on the temperature. He has witnessed many cases in which an emotion or excitement sent the temperature up particularly in tuberculous subjects. Meisen has published a case in which the temperature used to go up to 114 F., although the tuberculosis was in the incipient stages and the patient ultimately recovered. Kaurin thinks such temperatures are due to some functional change in the centers which regulate the production of heat, or are the effects of suggestion. It is advisable to use a thermometer which the subject is unable to read himself, or omit the temperature

record when he is unusually impressionable. The "blind thermometer," which he commends, is useful for any nervous subject.

The Munchener medicinische Wochenschrift.—This able medical journal is published by a group of a dozen physicians, including Curschmann of Leipsic, Bäumler of Freiburg, von Leube of Würzburg, Helferich of Kiel, von Michel of Berlin, Penzoldt of Erlangen, Merkel of Nuremberg, and five Munich physicians. One of the latter, Dr. B. Spatz, is the editor. A certain sum is set apart out of the profits each year to be distributed between societies that aid the widows and orphans of physicians, etc. This year nearly $2,600 were thus dispensed, about half the amount being presented to the Pettenkofer Memorial Building Fund. The proprietors are very much gratified at the great success of their journal, which rejoices in an edition of almost ten thousand copies, "a circulation," they editorially remark, "which no organ of our science has heretofore even approximately possessed."

Physicians Should Examine Teeth.—No physician at the present time should ever treat a patient complaining of symptoms of indigestion without a thorough examination of the teeth. If the teeth present are insufficient for proper mastication, or if there are carious teeth the patient should at once be recommended to consult a good dentist. It is not, however, sufficient simply to suggest any dentist, but the patient should be given a good idea of the risk involved in consulting anyone but some member of the dental profession who is thoroughly responsible and whose skill can be relied on to do what is best for the patient. There is no doubt that physicians can in this way contribute in an important degree to the uplifting of the sister profession of dentistry and enable it to escape some of the demoralization incident to the large number of bargain-counter dentists in the field.—*Medical News.*

The Pyromaniac.—Dr. Charles H. Hughes calls attention in the *Alienist and Neurologist* to the difference between an incendiary and a morbid fire fiend or pyromaniac. The pyrophile loves to see fires and may or may not be vicious or insane enough to commit unlawful incendiarism in order to witness a fire. It is a common thing for people to run to fires with no other motive than to see them blaze. He cites the case of a man who committed suicide at Mascoutah, Ill., because detectives considered him an incendiary. He attended every fire in the town and showed much delight in so doing. This led the detectives to suspect that he caused the fires. Hughes gives facts that suggest that the man was innocent, but calls attention to the difficulties of the situation and the need of most careful investigation on the part of detectives in such instances. Perhaps expert medical referees should be consulted.

Medical Advancement.—It should be remembered that learning, however broad and scientific, is not sufficient of itself to make a man all that a true physician should be. Oliver Wendell Holmes says: "Science is a first-rate piece of furniture for a man's upper chamber if he has got common sense on the ground floor; but if he has not plenty of good common sense, the more science he has, the worse for his patient." But, beside learning and science and common sense, there should be honesty of purpose. The true physician owes allegiance primarily to the general welfare of the community and to our moral and intellectual convictions. His one endeavor is to learn the truth and to proclaim it, to oppose the wrong, to uphold the right, to devote whatever talents may be his toward safeguarding the public health, and to advance the best interests of his profession, and all this without any thought of receiving greater reward than that which comes from a good reputation.—*William M. Welch.*

Alcohol Corrodes.—The action of alcohol on metal is peculiar, says *Science.* Dr. Malmejac in his experiments used 95 per cent. alcohol, which left no residue on evaporation. The metals, copper, iron, tin, lead, zinc, and galvanized iron, were corked up with alcohol in glass flasks and kept at ordinary temperatures for six months. The copper was entirely unacted on, but in all the other flasks there was a deposit on the bottom and the metal was covered with a similar deposit. In the case of tin, lead, zinc, and galvanized iron the deposit was white; that from the iron was red, resembling iron rust. All of the liquids, except that in which the lead had been placed, filtered clear; the latter retained a milky appearance after repeated filterings through double filters. The clear filtrates from iron, lead, zinc and galvanized iron gave much residue on evaporation, while the residue from tin was hardly appreciable. In the former cases it is clear that not only had the metal been oxidized, but a considerable quantity had entered into the solution. These experiments have an important bearing on the storing and shipping of alcohol.

Bronchopneumonia and Septicemia in the Newborn.—L. Morquio remarks that signs of bronchopneumonia and of septicemia are always encountered in the cadavers of the infants who die at the Montevideo Foundlings' Asylum in his charge. The germs are generally streptococci or colon bacilli. They find their way into the air passages and generate toxins that pass into the blood. His experience has been that such infection is best combated by injections of physiologic salt solution. Whenever an infant's weight remains stationary or drops, he injects 5 to 10 c.c. daily as long as necessary, suspending and renewing it as need arises. When there are symptoms on the part of the lungs or bronchi he injects camphorated oil in the proportion of 1 to 20, alternating it with the saline, and suspending all medication occasionally or substituting a 1 to 20 solution of quinin in case of persisting hyperthermia, although tepid baths are the main reliance. He reports, in the *Revista Medica del Uruguay*, No. 11, 1902, that these measures systematically carried out have tided many infants past this critical stage and they left the asylum after a few months in good health.

Traveling Ophthalmic Hospitals.—About ten years ago Russia instituted the traveling ophthalmic hospital and in 1901 had 32 in operation. It is merely an ophthalmic hospital or dispensary, which is set up in a community and remains there until all the persons whose eyes need attention have been treated, when the dispensary moves on to another adjoining field. The aim was to combat trachoma in particular, which is extremely prevalent in Russia. The expenses of these leisurely traveling hospitals are paid out of a fund instituted by the Empress. Sir Ernest Cassel of Great Britain placed at the disposal of the Egyptian government in 1903 the sum of $200,000 to be applied for a similar purpose in Egypt. A recent article in the *Wochft. f. Therapie u. Hygiene des Auges* describes a visit to the Egyptian hospital when it happened to be stationed near the town of Menouf in the western part of the Nile delta. The hospital consisted of eight tents and an adobe kitchen. Two tents were set apart for patients who had undergone intraocular operations and one tent for outpatients. The largest tent was the operating room, and the operator, his trained Arab assistant, the nurses and servants, about a dozen persons in all, occupy three other tents. About six operations are done every day, the majority being for entropium. Large numbers of patients apply for treatment and the *Lancet*, in commenting on these facts, remarks that the large proportion of women shows that the hospital has gained the confidence of the Mohammedan population.

Another State Journal.—Among the changes made at the recent meeting of the association, remarks the *Journal of the Mississippi State Medical Association*, not the least was the adoption of an official organ. As this was done on the last day of the meeting, after the departure of quite a number of the members, a word of explanation concerning this step will not be amiss. It was strongly argued by one of the councilors that organization can not be perfected unless there is some method by which the members can be reached at any and all times, that the annual meeting is but the culmination of the year's work and that without some general method of communication this work can not be satisfactorily done. This being the general opinion, an arrangement was made by which the *Mississippi Medical Record* became the *Journal of the Mississippi State Medical Association*, the title remaining with the management of the old journal,

which is discontinued from date under its old name and hoists the flag of the association. The journal will be sent to every member of the association without extra expense to the individual, the association foots the bill. It will be run as an association journal, pure and simple, and the management requests the members to give it their assistance in the collecting of news. As part and parcel of the association, the journal is entitled to the support of every member and all should take an active interest in its upbuilding.

State Boards of Registration.

COMING EXAMINATIONS.

West Virginia State Board of Health, July 12-14. Point Pleasant. Secretary, Hugh A. Barbee, Point Pleasant.

Illinois State Board of Health, The Coliseum Annex, Chicago, July 20, 21 and 22. Secretary, J. A. Egan, M.D., Springfield.

Medical-Practice Law in Panama.

We print herewith a translation of the law regulating the practice of medicine and surgery in the Republic of Panama, for which we are indebted to Dr. Claude C. Pierce, assistant surgeon of the United States Public Health and Marine-Hospital Service. This law has been in force only since March 23, 1904, and no one had applied for examination in the first month or two of its enforcement. We are informed that the examination will be oral and in either Spanish, French or English, as all three of these languages are in general use on the isthmus. The law, however, says that the examination shall be in the form and according to the program established by the board in each case, and under that sort of a rule they have a right to do anything they please. The president of the National Board of Health is Dr. C. L. Urriola, Panama, Panama.

Many physicians in the states have made inquiries of the United States consul general at Panama as to the requirements for practice there, and the publication of the law fills a need. This law does not apply to the zone controlled by the United States Government. Laws for this zone will probably be passed by the Canal Commission. The fee mentioned as payable in the currency of the country is at the present time worth nearly $100, gold. The country will probably go on a gold basis, and if it does, the fee, of course, will be payable in gold.

The law is known as Law No. 18, of 1904, and was passed by the national convention of the Republic of Panama, under authority of paragraph 2, article 29, of the constitution of the republic. It is as follows:

Art. 1. In order to practice the profession of medicine or surgery in the Republic of Panama it is necessary, and sufficient, to possess a diploma of capacity, approved by the National Board of Health.

In those parts of the republic in which there are no graduates of medicine, either native or foreign, the authorities of these parts will tolerate, during the time that this state of things exists, certain persons that possess some knowledge of the practice of medicine to continue giving their advice when requested.

Art. 2. The National Board of Health shall constitute the examining board for the republic, but it shall not be a school of medicine, nor shall it have power to confer university degrees.

All persons that desire to practice medicine or surgery, or any of its branches, shall be required to present a diploma that shall be examined and approved by the board, after an examination in the form and according to the program that the said board may establish for each case.

If the examination results favorably, the physician shall have the right to the approval of his diploma, which will give him the right to freely practice his profession in all parts of the republic. Failing in the examination, a new examination will not be allowed until six successive months have passed.

The National Board of Health, in order to carry out the provisions of this article, shall have authority to name the supernumerary examiners that they may think necessary.

Art. 3. Those examined, each time that they shall request the approval of their diplomas, shall deposit previously, in the general treasury of the republic, the sum of $200, and shall pay, in advance, to each examiner, as a fee, $10 for each session that they attend.

These amounts shall be payable in the current national money on the day of payment.

Art. 4. The diplomas in medicine and surgery issued legally in Columbia in favor of Panamans before Nov. 3, 1903, are national, and are authority to practice medicine for life in any part of the Republic of Panama, without the necessity for further approval.

The Panamans that, before the date mentioned, had obtained a degree as a physician or surgeon in any medical college, shall have the right to practice the profession in the republic without examination or payment of fees. There are also authorized to practice medicine or surgery, without examination or payment of fees, all those physicians with a diploma of capacity that, at the date of approval of this law, were practicing medicine or surgery in the republic.

When any of the physicians to which this article refers desire to have their diploma examined and approved by the National Board of Health, it shall be done without other formality than the request of the owner of the diploma.

Art. 5. The natives of those countries that prohibit graduate Panamans from the practice of medicine or surgery will not be allowed to practice medicine or surgery in Panama, nor shall their diplomas be approved. This is in accordance with the provisions of article 9 of the national constitution.

Art. 6. In order to exercise the functions of medical officer, of whatever nature it may be, it is necessary to possess a university degree or diploma, in medicine or surgery, according to the circumstances, that has been approved by the National Board of Health, as required by this law; or, he shall be included in one of the excepted classes mentioned in article 4.

Art. 7. The National Board of Health is empowered to organize and regulate, when they think it necessary, everything relating to the practice of the dentists, midwives, undergraduates, pharmacists and veterinarians, according to the spirit of this law.

They shall also regulate the sale of medicines, drugs and poisons.

The persons authorized by this law to practice medicine shall have the right to dispense, for all time, the substances to which this article refers, but subject in this case to the regulations that the National Board of Health dictates for the pharmacists.

Art. 8. Those that break this law shall be subject to fines, that shall be turned into the general public treasury, of from $20 to $200 for each infraction, according to the gravity and recurrence of the offense. These fines will not relieve the offender of any criminal responsibility that he shall have incurred.

The National Board of Health shall fix in its regulations the penalties that shall be applied to those that exercise unlawfully any of the auxiliary branches of medicine, in the proportion established by this article for the physicians and surgeons; save in those infractions to which the penal code will apply.

The governors of the provinces are charged with the proper administration of this article, when infractions are noted officially, or on the report of any citizen. In case of doubt, the National Board of Health shall be consulted, and their decision shall be final.

The governors are personally responsible to the public treasury for the fines that are not collected as their own debt.

Art. 9. Excepted from this law are the stipulations contained in the public treaties that exist between the Republic of Panama and all foreign powers.

Art. 10. All resolutions or orders contrary to the letter or spirit of this law are hereby repealed.

Questions in Pennsylvania.—The State Medical Examining Board held the regular spring examination in Pittsburg and Philadelphia, June 28 to July 1. There were 260 candidates in Philadelphia and 120 in Pittsburg, making a total of 380. Following is a list of the questions asked:

ANATOMY.

1. Locate the appendix vermiformis and give its relations. 2. Name and locate the accessory sinuses of the face and describe their outlets. 3. Describe the elbow joint. 4. Describe the Y or ileo-femoral ligament and name the muscles concerned in a dislocation affecting it. 5. Describe the vessels, nerves and other structures found in Scarpa's triangle. 6. Describe the structure of the arteries, and give their nerve and blood supply. 7. Describe the lachrymal apparatus. 8. Give origin, course and distribution of the seventh nerve. 9. Give the classification of joints, with an example of each of two varieties. 10. Give origin and course of the optic nerve.

DIAGNOSIS.

1. Diagnosticate hypertrophy of the lymphoid tissue in the vault of the pharynx (adenoid vegetation). 2. Differentiate measles, rotheln, scarlet fever; also chicken pox and smallpox. 3. Diagnosticate mastoiditis. 4. Differentiate paresis (paretic dementia) and alcoholic insanity. 5. Differentiate acute cystitis and acute prostatitis.

HYGIENE.

1. What measures should be taken to stamp out an epidemic of smallpox? 2. Describe methods for disposal of sewage, and state which you consider to be the most practical. 3. Describe in full the causes of malaria and its prevention. 4. Describe efficient methods for securing sanitary conditions of street railway cars. 5. Does change in climate require modification of food, and, if so, what?

CHEMISTRY.

1. Give the chemical antidotes for the salts of silver, lead and mercury, used in medicine. 2. Detail a test for the detection of arsenic in the gastric contents, and differentiate from antimony. 3. Describe a test for the quantitative estimation of urea. 4. Describe two chemical tests for blood. 5. Describe the tests for acetone and diacetic acid in the urine.

MATERIA MEDICA.

1. Name the drug of which pilocarpin is the active principle and give the dose of its tincture that would be equivalent to 1/20 grain of pilocarpin. 2. Give the dose of tincture of nux vomica equivalent to 1/30 grain of its principal alkaloid, and name two official preparations into which this active principle enters. 3. Name and describe two drugs used to produce local anesthesia. 4. Criticise the following prescription:

℞ Tr. nucis vomicæ.....fluid drams 2
Ferri et ammonii citrat.....dram 1
Tr. cinchonæ comp.....fluid oz. 2
Syr. aurantii q. s. ad.....fluid oz. 4
M. S. Two teaspoonfuls in water before each meal.

Suggest a pharmaceutic preparation embodying the same therapeutic properties. 5. Classify arsenic, choral, phosphorus, iodin and turpentine.

OBSTETRICS.

1. Enumerate the perils of pregnancy and parturition. 2. In what different forms does puerperal sepsis manifest itself? 3. What are the attendant dangers and subsequent conditions liable to

follow abortion? 4. How would you manage a breech presentation? 5. Before the head engages, how would you convert an L. O. P. into an L. O. A. position? After the conversion, describe the mechanism of the labor. 6. What pelvic measurements would cause you to induce premature labor? 7. Under what circumstances should version be performed? 8. What attention should the obstetrician give to a child immediately after birth? 9. What injuries may happen to the bladder and rectum during labor, and how may they be avoided? 10. What is involution and how long a time is required for its completion.

SURGERY.

1. Describe the treatment for fracture of shaft of femur at middle third. 2. Give diagnosis and surgical treatment of carcinoma of female breast. 3. Give any one of the dislocations of the knee joint and method of reduction. 4. Outline the principles of treatment for a compound dislocation. 5. Describe the operation of cholecystotomy. 6. Give the diagnosis and treatment of Pott's disease. 7. Describe the operation for ligation of the femoral artery. 8. Describe the local and general symptoms of an infected wound. 9. Describe Pott's fracture, name the structures involved and outline the treatment. 10. Explain when and after what treatment for reduction of strangulated hernia operation must be resorted to.

PRACTICE.

1. Define locomotor ataxia and name the causes, structures involved and the symptoms. 2. Define croupous pneumonia; state what structures are involved, and give the symptoms and treatment. 3. What are the causes, varieties, differential signs and symptoms and treatment of dilatation of the stomach. 4. Describe the symptoms of arteriosclerosis; name the causes, and state what two important organs are mostly involved, and how it may cause sudden death. 5. Define renal colic, and give cause, symptoms and treatment.

THERAPEUTICS.

1. Either to increase or to diminish acidity of the stomach, explain when an alkali should be administered. 2. Explain how antitoxin causes immunity; effects cure; and the methods of administration as a prophylactic and as a curative agent.. 3. Name two drugs, giving dose and method of adminstration, for the treatment of any one form of dropsy and explain how they act. 4. Describe the symptoms caused by a toxic dose of opium, show with what diseases they may be confounded and outline the indicated treatment. 5. Name two respiratory stimulants and two vaso-motor depressants; give the indications for use of each, the dose and method of administration.

PHYSIOLOGY.

1. Give a general description of the physiology of cell action as determined by intercellular lymph. 2. What are the functions of the pneumogastric nerve? 3. Explain the functions of the principal columns of the spinal cord. 4. Describe the functions of the structures composing a pulmonary vesicle. 5. Discuss reflex action.

PATHOLOGY.

1. Describe the formation of an acute abscess. 2. Describe a tubercle and give the characteristics of the bacillus tuberculosis. 3. Explain why and how obstructive disease of the coronary arteries causes myocardial degeneration. 4. Describe the lesions characteristic of chronic alcoholism. 5. Describe the pathologic characteristics respectively of exudative and productive renal degeneration.

Illinois April Report.—Dr. J. A. Egan, Springfield, secretary of the Illinois State Board of Health, reports that at the written examination held at Chicago, April 7-9, 1904, 110 questions were asked on 11 subjects, and a per entage of 75 was required; of 45 candidates, 44 passed.

PASSED.

College.	Year Grad.	Per Cent.
Illinois Medical College, Chicago	(1904)	81, 82, 81, 79, 86
Rush Medical College (1903) 89, 89; (1904) 89, 90, 86, 87, 86, 88, 88, 85, 88, 92.		
Hahnemann Medical College, Chicago (1904) 87, 81, 85, 86, 84, 81, 80, 81, 86, 78; (1902) 83.		
University of Iowa, Iowa City	(1897)	87
N. W. Univ. Med School, Chicago	(1904)	85
Trinity University, Toronto	(1896)	88
Royal University, Naples, Italy	(1892)	79
Coll. of P. and S., Chicago	(1902) 83; (1904)	82
Coll. of P. and S., St. Louis	(1904)	79
Eclectic Med. Coll. of City of New York	(1898)	75
Univ. of Michigan, Ann Arbor	(1901) 82; (1902)	90
University of Edinburgh, Scotland	(1890)	87
Herring Medical College, Chicago	(1902)	79
Keokuk Medical College, Keokuk, Iowa	(1903)	79
Chicago Homeo. Med. Coll., Chicago (1903) 80;	(1904)	84, 84

FAILED.

Meharry Med. Coll., Nashville	(1903)	52

Book Notices.

AN AUTOBIOGRAPHY. By Herbert Spencer. Illustrated. In Two Volumes. Vols. I and II. Cloth. Pp. 654 and 613. Respectively. Price, $2.75 Per Volume. New York: D. Appleton & Co. 1904.

It takes two bulky volumes to contain Herbert Spencer's story of his own life. While it is full of philosophy, as is everything that Spencer wrote, one's interest is so sustained that one regrets when the end is reached. Here is a portrait of himself drawn by a most remarkable man, and it seems to be real and true to life. Spencer evidently wrote the truth regardless of consequences, either as it might influence his own reputation or the feelings of others. Those who expect to find in this autobiography a detailed account of Spencer's life will be disappointed. Except that which refers to his boyhood days, there is very little about purely personal matters, about the little things that go to make up the sum total of life. The little there is of this character is taken from his own letters, written to a few—and a very few—personal friends. One of these was "my American friend," a phrase so often used—the late Prof. E. L. Youmans of this country, to whom he wrote often and to whom he was greatly indebted for the early success of his books here. But, reading between the lines, the autobiography is a vivid portraiture of the peculiarities of the man, revealing his true character much more faithfully than could be done by any biographer. Evidently it was Spencer's plan to give all the facts bearing on the development of his ideas and the placing of them into concrete form, as they finally appeared in his volumes, and it is from this point of view that the autobiography has its greatest value. It is here where lies the fascination of the book, the following out, the gradual unfolding and the coordination of his philosophy in his great system. Spencer, in his works, discussed every phase of human thought and action. In his autobiography he has done the same, less fully, it is true, but nevertheless in the same popular manner. There is hardly a phase of intellectual or social life about which he does not have something to say, music, art, religion, government, education, botany, astronomy, chemistry, medicine—about all of these he has some remarks to make, and they are usually original, instructive and entertaining. It mattered nothing to him what others might say or think; he had his own ideas, and was never afraid to express them, but he never expressed views about something of which he knew nothing.

One can not but feel, while reading the first part of this book, that Spencer took up his great work more as a result of a series of accidents than from design. One of the most startling facts revealed is that he really drif ed into what finally became his life work. He first started as a teacher, the profession his father and grandfather had followed all their lives. Then accident gave him a position as a civil engineer on one of the many railways then building in England. As an engineer he was very efficient and successful. This he gave up to assist his father in getting up "an electromagnetic engine," although "within a month . . . . it became manifest that, in pursuit of a will-o'-the-wisp, I had left behind a place of vantage from which there might probably have been ascents to higher places." Soon after this he came near taking up medicine, and then architecture had a fascination for him. But he was doing little, if anything, except dabbling in various inventions. It was during these days of nominal idleness that he began to write an occasional article for the newspapers and reviews, on political matters usually. This led to his being selected as a subeditor on a paper just then starting as the organ of the Complete Suffrage Movement, but this position lasted only a month. Soon after this—he was now 24—he was again back at railroad work, although only for a short time, and so it went until he was 28, when, discouraged, he thought of emigrating to New Zealand. But the die was soon cast. He was appointed subeditor of the Economist, and this position only requiring part of his time, he began to write, and finally gave up editorial work and settled down to accomplish the great work to which he had now set himself.

And what tremendous courage and dogged perseverance it required to accomplish what he did can only be appreciated by reading his life. One of his first obstacles, and this lasted for years, was the precariousness of his means. He had to practice the most rigid economy to be able to keep up his work, and at times it seemed as though he would have to give up; but each time something developed to make it possible for him to go on. But his greatest and most persistent impediment was his poor health. From over-mental work he became a nervous wreck when but a young man. This developed until he had become a typical neurasthenic of an exaggerated type. To relieve his sleeplessness—one of his worst symptoms—he used opium occasionally, and finally was taking 1.5 gr. at a dose.

Those who have read Spencer's works will want to read this autobiography; those who have not, should read it, for it will

make them anxious to know more of what Spencer had to say on this and that phase of social life, for, whether his system of philosophy stands or falls, there is no writer who has influenced the intellectual and social development of his age and generation as has Herbert Spencer.

MODERN OPHTHALMOLOGY: A PRACTICAL TREATISE ON THE ANATOMY, PHYSIOLOGY AND DISEASES OF THE EYE. By James Moores Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. Pp. 820. 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates. Philadelphia: F. A. Davis Co. 1904. Cloth. $6.00.

Even a cursory examination of this latest addition to our larger text-books on ophthalmology shows it to be one of the best works on the subject recently published. It may well be questioned whether a book designed both for undergraduate use and for the surgeon who makes a specialty of eye diseases is not in danger of falling between the too simple and the too exhaustive treatment of the subject. The student is likely to look askance at a volume of eight or nine hundred pages, while the specialist may complain that the same treatise lacks completeness—does not cover the ground as thoroughly and as exhaustively as it should. What the student very properly regards as likely to give him a literary indigestion, the ophthalmologist believes to be an insufficient meal. Dr. Ball has, we believe, skillfully sailed his ophthalmic bark between the student Scylla and the specialist Charybdis, and presents us with a series of chapters useful to both practitioner and senior student. We would suggest, however, that in the second edition, which we predict will be called for in a short time, such a list of chapters and headings be appended that, in the opinion of the author, the undergraduate student should regard as his particular province. The whole book belongs, of course, to the postgraduate scholar. In these labors the author has been judiciously assisted by a most capable corps of collaborators. Of these the following are Philadelphians: Dr. William Zentmayer has written chapter xx, on "Anomalies of the Muscular Apparatus"; Dr. Jay C. Knipe, chapter xxii, on "The Ocular Manifestations of Nervous Diseases"; Dr. William T. Shoemaker, chapter xix, on "Diseases of the Orbit"; Dr. John T. Krall, chapter xxi, on "Errors of Refraction"; Dr. Harold G. Goldberg, chapter xxiv, on "The Hygiene of the Eyes." Dr. W. E. Fischer of St. Louis furnishes a very practical chapter (xxv) on the methods employed in the microscopic examination of the eye.

Not only is the matter in this volume excellent, but very few errors, typographical or other, are to be found. Of course, there is the usual failure in the illustrations to reproduce accurately the peculiar coloration—physiologic and pathologic—either of fundus conditions or of many external diseases of the eye. The microphotographs are no worse than we have found them in other publications of the kind; perhaps they serve a useful purpose in suggesting the conditions seen by the microscope in the original section or smear. We do not blame Dr. Ball for this, as we have never seen, apart from the smaller Jaeger Atlas, half a dozen colored prints in any ophthalmic treatise that, in our opinion, faithfully portrayed fundus pictures. It seems impossible to limit the yellow and the blue used in such illustrations. There are some exceptions to the rule in this work, notably the two fundus prints on plate 23, and there are several others that are also above the average of excellence.

On the whole, we have nothing but praise for Dr. Ball's treatise. In view of its many excellencies, we leave others to point out such minor and unimportant slips as the spelling of Moorfields without the final "s," the use of "mydriatic" where cycloplegic is evidently intended, etc.

TUBERCULOSIS AND ACUTE GENERAL MILIARY TUBERCULOSIS. By Dr. G. Cornet of Berlin. Edited, with Additions, by Walter B. James, M.D., Professor of the Practice of Medicine in the College of Physicians and Surgeons (Columbia University), New York. Pp. 806. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

A disease that causes one-seventh of the deaths of human beings is worthy of the most exhaustive study and the most serious attention of physicians, especially when it is realized that the disease, in its earlier stages, is a curable one. Too many physicians have labored under the impression that consumption is a disease for which they can do nothing; that when they have made the diagnosis, they have done all they can do. Those who still hold such views should change them, for the disease is curable. It is, at least, important enough to demand that every physician in general practice should understand it and know what there is to be known about it. For those who desire to do this, we know of no single treatise that covers the subject so thoroughly in all its aspects as this great German work of Cornet. Having said this, we have said all that is necessary about the book. Among all the monographs that have appeared in the excellent series edited by Professor Nothnagel, none has been better received than this one. It came at a time when interest in the subject had become general, not only among the profession, but among laymen also. As we have said in noticing former volumes in this series, American readers have an advantage of not only the original work, but that which is added by the American editor. In this volume, consisting of over 800 pages, Professor James has added to its value by giving us much valuable matter of special interest to Americans, to which the German author had not access, as well as bringing it up to date by incorporating in it the latest knowledge obtained by the most recent investigations. Especially should be mentioned the chapter by Baldwin of Saranac Lake on the chemistry of the tubercle bacillus, together with a discussion by the American editor of the subject of the relation of bovine to human tuberculosis. Every phase of the subject is discussed, including the history, the methods of diagnosis, treatment, etc. The translation has been excellently done, and a bibliography of over 90 pages adds to the completeness of the work. All in all, it is one of the most exhaustive, practical and satisfactory works on the subject of tuberculosis in the English language.

MEDICAL DIAGNOSIS. Special Diagnosis of Internal Medicine. A Handbook for Physicians and Students. By Dr. Wilhelm v. Leube, Professor of Medicine and Physician-in-chief to the Julius Hospital at Würzburg. Authorized Translations from the Sixth German Edition. Edited, with Annotations, by Julius L. Salinger, M.D., Late Assistant Professor of Clinical Medicine in the Jefferson Medical College. With 5 Colored Plates and 74 Illustrations in the Text. Cloth. Pp. 1,058. Price, $5.00. New York and London: D. Appleton & Co. 1904.

Leube's diagnosis has long been recognized as a standard work, and its translation from the sixth German edition is welcome. In general the translation has been well done, and the editor has made occasional valuable annotations. Once in a while a too literal adherence to the German idiom is seen, as when "pulsions diverticulum" is referred to, and when that puzzling word "respective" is translated "respectively," e. g., "Subacidity respectively anacidity" (p. 295). In some of the illustrations there is a strange mixture of Latin and English terms. Thus, Figure 27, p. 514, we find not only "canalis centralia," "commissura anterior grisea," etc., but also "posterior horn," "lateral cornu." Of Leube's work little need be said. The book is full of Leube's personality, the experience of a man of judgment, who has had years of varied clinical experience. It is distinctively a practical work, though the theoretical is not ignored, and one may be sure that anything described by Leube is viewed from the scientific standpoint. It is needless to say that such diseases as those of the stomach, ulcer, for instance, a subject in which Leube was one of the pioneers, are described in a wonderfully complete yet compact form, as can only be done by one who is fully master of his subject. We could pick flaws here and there, could wish that under epidemic meningitis, lumbar puncture and the Kernig sign were brought more to the front, that tricuspid stenosis, pylorus spasm, etc., were enlarged on a little more, but, take it for all in all, the work is quite a complete mine of information, imparted in a modest manner, and often helping out the perplexed practitioner just where he needs help, i. e., in the very places where Leube was perplexed some fifteen or twenty odd years ago, and which he now tells us about in a way both pleasing and instructive.

DIGEST OF RESEARCHES. By Laboratory Workers of the Smith, Kline & French Company. Volume I. Comprising Abstracts of Papers Published from 1893 to 1904. Published by Smith, Kline & French Co., Philadelphia. 1904.

This is a series of abstracts of important articles appearing in current drug and other journals, on drugs, oils, foods, etc.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Academy of Ophthalmology and Otolaryngology, Denver, August 24-28.

Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.

CLEVELAND ACADEMY OF MEDICINE.

Eighteenth Regular Meeting, held May 27, 1904.

The President, Dr. G. W. Crile, in the Chair.

Tuberculosis, Is It a Communicable Disease?

DR. H. B. ORMSBY, in this paper, reported three fatal cases of tuberculosis contracted by communication. Consumption may be contracted by those not having any hereditary tendency to it, and this is usually due to the dissemination of the tubercle bacilli in dry dust. The co-operation of the laity must be obtained in taking precautions against the spread of the disease, both through the medium of the societies for the prevention of tuberculosis and by individual members of the medical profession. In the crowded tenement districts of large cities, where the children live in a dust-contaminated atmosphere, one will often find positive proof of the contagiousness of tuberculosis. By a campaign of instruction, and by raising the sanitary standards in such districts, much may be accomplished. The infection of nurses and attendants in consumptive sanatoria is very uncommon, showing that the spread of the disease may be effectually checked by this means.

Action should be taken by the city authorities to prevent the dissemination of dust during the demolition of old buildings, which might be effectually prevented by first wetting the building thoroughly.

The three cases here reported illustrate the result of carelessness in the disinfection of tubercular sputum. A family, all in good health and having had no previous cases of tuberculosis, moved into a house formerly occupied by a consumptive; one of the rooms was found much soiled by the sputum of this patient, and was cleaned and repapered by the mother and daughter when the family moved in. This room was then occupied as a bedroom by two of the sons. Within a short time one of these sons, aged 17, was found to have consumption, and died within ten weeks. As soon as this case was discovered the house was thoroughly disinfected, and great care exercised to prevent the further spread of the disease. Eleven months after the death of the first case, however, the other son, aged 19, who at first occupied this room, was also found to have consumption, and died within three months. Shortly after his death the daughter, aged 20, who had helped clean the room, was also stricken with tuberculosis and died within eight months. The inference seems clear that these three cases became infected from the contaminated room, since every precaution against further spread of the disease was taken as soon as the first case was discovered. Only those specially exposed to the infection acquired the disease, with the exception of the mother, who was old and probably not so susceptible as the others. The youngest succumbed first and the oldest last, and after the proper precautions were taken further infection of the other members of the family was prevented.

DISCUSSION.

DR. MOOREHOUSE said the Cleveland Board of Health was at present drawing up a new health code, closely approaching that of New York City. He had noted a number of similar cases of infection from houses. Persons above middle age are still liable to infection, and often succumb to the disease.

DR. L. K. BAKER drew attention to the necessity of careful cleaning of the public school rooms, and strongly advocated the moist method of doing this; the raising of clouds of dust is thereby prevented. The hot-air system of heating the schools is also faulty, as the humidity is greatly reduced, and on leaving the schools the pupils are more subject to colds than if steam heat is used; by actual count, 10 per cent. more children had colds last winter in rooms heated by hot air than in steam-heated rooms.

DR. SPENZER also advocated moist cleaning, and thought some agent to dissolve the envelope of the bacilli should be used instead of bichlorid, which coagulates it.

DR. DOOLITTLE thought paper sputum cups, which could be burned, preferable to metal ones; or, if moist cloths are used, they should be saturated with an antiseptic.

DR. WILLIAM E. BRUNER recommended a roller bandage as an efficient receptacle for sputum, the soiled part to be continually wound up.

Fluid in the Pleural Cavity Simulating Pneumonia.

DR. C. F. HOOVER read this paper. The respiratory murmur, as heard through the normal lung and chest wall, is a mixed sound, composed of the sound produced at the glottis and the vesicular sound, which probably originates in the infundibula. The two may be differentiated only in pathologic conditions; the first may be heard alone as bronchial or tubular breathing, when the vesicular sound is eliminated by consolidation or compression of the lung. The elimination of the laryngeal sound has never been accomplished experimentally, and clinically he knew of only one recorded instance. A patient whom he saw suffering from pneumonia was seized with clonic spasm of the diaphragm, accompanied by closure of the glottis; at each spasm of the diaphragm a pure vesicular sound could be heard over the lungs. When the lung is compressed or consolidated the vesicular factor is lost, and we get bronchial breathing and bronchophony. Fluids are good conductors of sound, although there is a prevalent conception that fluid in the pleural cavity obscures sounds. These fluids, serum, blood and pus, transmit sounds, and if the lung, compressed by the fluid, transmits the breath sounds, why are they not always heard over the pleuritic fluid? The physical law of refraction and reflection of sound on passing through media of varying density, and the condition of the parietal and visceral pleuræ modify the transmission of the sounds. Both these factors vary very greatly owing to the density of the fluid and the degree of compression of the lung. A completely carnified lung, having an open bronchus and immersed in fluid, transmits sounds better than if the lung be partially compressed, since, in the first case, there is less refraction and reflection of sound waves during transmission between the media. Old, thickened pleuræ are found clinically to render the breath sounds inaudible.

The first case attracting his attention was that of a woman with fibrous myocarditis. There was moderate edema of the legs, but no free fluid in the abdomen. That portion of the chest corresponding to the lower lobe of the right lung was flat and very resistant on percussion. This was sharply defined, and extended to the normal upper limit of this lobe; tactile fremitus was absent, but loud, high-pitched, bronchial breathing and very distinct pectoriloquy were heard over the dull area. Subsequent autopsy showed a small carnified lung, with an accumulation of clear serum over it. The pleuræ were normal.

Another patient, with a pleura full of clotted and fluid blood as a result of a ruptured aortic aneurism, showed over the entire left chest flatness, absence of tactile fremitus and loud, high-pitched bronchial breathing.

A boy of nine years, with fever and marked dyspnea, showed displacement of the liver downward and of the heart to the left, with increase of the volume of the right thorax so as to produce a scoliosis. Loud, high-pitched bronchial breathing over the right chest, no râles, heart sounds heard in right axillary line. Three quarts of pus were aspirated, allowing the liver to ascend and changing the right to a left-sided scoliosis.

A moribund patient gave signs of pleural effusion, viz., displacement of liver and heart, flatness on percussion, but there were heard bronchial breathing, pectoriloquy and many medium and coarse mucous râles over the affected area. The chest was found filled with seropurulent fluid, and at autopsy a tubercular pleurisy, with compression of the right lung against the mediastinum.

All these four cases showed a large amount of fluid and a considerable area of compressed or carnified lung, but a small amount of fluid may give similar results as in another case, with fever, cough and pain in the lower left thorax. There

was a dull, resistant area posteriorly on the left side, tactile fremitus was very faint, high-pitched bronchial breathing, pectoriloquy, and medium moist râles were heard. One pint of serum was aspirated, the receding level of the fluid being apparent by the change from bronchial to vesicular breathing, as well as by the loss of dullness. The most likely explanation of this case is that there was narrow lateral limitation of the fluid, with central compression of the lung.

Text-books give the impression that pleural effusion and loud bronchial breathing are inconsistent, but a conservative estimate would give bronchial breathing and pectoriloquy in 30 per cent. of all cases of fluid in the pleura. The thickening of the pleura often accounts for the absence of sounds. Bronchial breathing and pectoriloquy are often overlooked because auscultation with the unaided ear is neglected. This method will often show their presence when a stethoscope will fail to do so. This was found recently in a patient who had had a small amount of fluid removed from the chest; apparently a quantity still remained, but repeated punctures failed to locate any. No breath sounds were audible with the stethoscope, but distinct bronchial breathing was apparent to the unaided ear. At one spot where this was most distinct fluid was aspirated.

An essential point in differentiating pleuritic effusion from pneumonia, when bronchial breathing and pectoriloquy are heard, is the absence of râles in cases of effusion, or, if râles be heard, they are not of the consonant variety heard over a consolidated lung.

This explanation of the recurrence of these sounds over accumulations of fluid will probably not suffice in all cases, although it seems to satisfy the physical conditions found in the above cases. The bronchi may be the source of the acoustic opacity in some instances where the physical sounds are absent. The difficulty lies in accounting for the absence, not the presence, of bronchophony and pectoriloquy in cases of fluid of the chest.

DISCUSSION.

DR. SIHLER thought it was often difficult to determine the presence of fluid following a pneumonia. The text-books certainly give the impression that, as a rule, fluid prevents the passage of breath sounds.

DR. HOOVER said that frequently in children the diagnosis of pneumonia was first made, and later that of empyema, whereas it had been empyema from the beginning. In this condition bronchial breathing is commonly heard in children. It was a great mistake to rely entirely on the stethoscope. Very often the unaided ear could detect sounds inaudible with the instrument, and, of course, the stethoscope had advantages over the ear in other cases. In doubtful cases he would make an exploratory puncture at the spot where bronchial breathing and whispered pectoriloquy were not distinct.

Some Cases of Placenta Previa.

DR. D. S. HANSON read a paper with this title. The cause of placenta previa is uncertain, but endometritis seems generally recognized as one of the causes. Hemorrhage during the later months of pregnancy or early in labor is a prominent symptom, and is often profuse, without warning and painless. The mortality is high—20 to 25 per cent. for the mother and 50 to 70 per cent. for the child. The rules for treatment are well defined, but often difficult to apply in individual cases. The frequency of the complication is about 1 in 1,000 or 1,500 pregnancies.

A few details of the seven cases seen by him are as follows: Case 1 was seen in the second stage of labor and had a lateral implantation. She was terribly exsanguinated, but by rapidly delivering and removing the placenta, and freely using stimulants, the patient recovered. Case 2, a vertex presentation, considerable hemorrhage had occurred, the pulse was rapid and the patient much exhausted. Manual dilatation of the cervix and turning had to be performed under anesthesia; this proved very difficult. Both mother and child succumbed shortly after delivery. Case 3 was moribund from loss of blood when first seen. Podalic version and delivery were rapidly done without difficulty, but death occurred within a few hours. Case 4 was seen first in labor, and had lost but a moderate amount of blood. Under chloroform the cervix was dilated, and the child turned and delivered. The placenta was scraped off clean, and the patient made a good recovery. Case 5 had had two previous forceps deliveries on account of a contracted pelvis; hemorrhage was moderate, and, after turning, delivery was easy. Both mother and child were saved. Case 6 was bleeding profusely when first seen, placenta partially covering os, and had to be extensively detached in dilating the cervix and performing version. Both mother and child survived. Case 7 had a prolapsed cord and the placenta previa was discovered on turning. Hemorrhage had been slight. The mother survived, but the child was premature and syphilitic, and died.

The results in the latter cases were better than in the first, due partly to improved technic and greater experience; also to the use of salt solution infusions, which were not generally known at the time of the earlier cases (1879). Internal version was employed in all cases when indicated. This series shows that 71 per cent. of the mothers and 43 per cent. of the children were saved, excluding the last child, which was premature and syphilitic.

DISCUSSION.

DR. F. S. CLARK thought that there was no set rule of procedure, a great deal depending on the dilatability of the cervix and also on the implantation of the placenta. With a rigid os it is often difficult or impossible to turn or to draw down a leg, and there was often trouble in such cases from the after-coming head. In the future, probably, cesarean section would be more often indicated in this condition.

DR. J. J. THOMAS showed a specimen of fetus papyraceus. It had reached a development of about six months, and then died, while the other twin was born alive at the eighth month. The dead fetus was only discovered after delivery of the placenta.

DR. WILLIAM E. LOWER reported the action of the committee appointed by the academy to procure legislation by the city council to prohibit the use or sale of toy pistols and cannon crackers.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Mucous Colitis.

Runyon, in *N. Y. Med. Jour.*, gives the following suggestions for the treatment of this disease: Most cases are the result of mechanical irritation, resulting from chemical processes in the intestinal canal, or from fermentative processes the result of germs in the intestinal tract. 1. Suggestion is of great value and should be constantly employed. 2. Rest in bed until all acute symptoms have subsided, then have patient up and out. 3. Diet, most important, if constipation is present use liquids, preferably beef juice and broths, made more nutritious by addition of bread or some of the cereals and strained. He believes milk favors the formation of scybalous masses and thus aggravates the constipation, and predisposes to fermentation when diarrhea is present. Avoid all foods which mechanically irritate the bowel or tend to increase the existing constipation. He also allows fruit juices. If diarrhea is present, a dry diet is to be preferred, as beaten biscuit, toasted soda biscuit, or toasted light bread, crackers or rice; broiled meats in moderation, as steak, thigh of a young chicken, or game. Tea may be allowed in moderation. After all symptoms have disappeared the patient is permitted to eat any food simply prepared, easily digested, which contains no coarse substances. This excludes cornmeal, oatmeal, tomatoes, pastry, fried stuffs

and sweets. 4. Hygienic condition should receive appropriate attention. Cold baths, massage and electricity (the latter is of value chiefly on account of the mental effect) should be used with good judgment. 5. General tonics, provided they do not irritate the intestinal canal. 6. Elimination to free the bowels of all irritants. Patient should take enough Epsom salts each morning to insure one to three passages. Avoid all hepatic stimulants and irritating purgatives, even for some time after the patient has recovered because of the sensitive condition of the bowel, which persists. 7. Local treatment by rectum: one hour before retiring the patient is instructed to take a warm normal saline enema, not to be retained but enough to cleanse the bowel. One hour later inject into the bowel (better through a Wales bougie) the following:

R.	Iodoformi ..... gr. v	30
	Bismuthi subnitratis ..... gr. x	65
	Olei amygd. dulcis	
	Aquæ (hot), āā ..... ʒi	30

Insist that it be retained. The oil is soothing, helps to overcome constipation and prevent the formation of scybalous masses. If blood is present fluid hydrastis may be used. When diarrhea is present less of the almond oil may be used and add mucilage of acacia to the mixture. Surgical measures must be used if polypoid growths, etc., are causative factors, or a right colotomy when the disease resists all treatment.

Menopause.

The following has been recommended by Herzen for the nervous excitement and neuralgia during the climacteric period:

R.	Zinci valerianatis ..... gr. 5/6	05
	Ext. hyoscyami ..... gr. 1/3	02
	Ext. belladonnæ ..... gr. 1/6	01
M.	Pilulæ No. i. Sig.: Take three such pills daily; or:	
R.	Camph. monobromatis	
	Quinin valerianatis, āā ..... gr. iss	09
	Ext. hyoscyami ..... gr. 1/3	02
	Ext. belladonnæ ..... gr. 1/6	01
M.	Pilulæ No. i. Sig.: Four or five such pills daily.	

Menorrhagia or Metrorrhagia.

Le Progrès Médicale recommends the following when the menstrual flow is abundant:

R.	Ext. hydrastis fl.	
	Ext. hamamelis fl., āā ..... ʒiiss	10
	Ext. viburni fl. ..... ʒi¼	5
M.	Sig.: Twenty drops in a little water three times a day.	

Lumbago.

The *Med. Rev. of Reviews* recommends the following as a local application:

R.	Tr. iodi ..... ʒii	8
	Tr. aconiti rad. ..... ʒiii	12
	Spts. chloroformi ..... ʒiv	15
	Linimenti saponis co. q. s. ad ..... ʒiii	90
M.	Sig.: Apply locally several times daily.	

Toledo suggests the following as an excellent remedy for lumbago in women:

R.	Ferric phosphatis ..... gr. i	06
	Ext. belladonnæ	
	Ext. nucis vomicæ, āā ..... gr. 1/10	006
	Ext. cascaræ sagrad. ..... gr. i	06
M.	Ft. pilulæ No. i. Sig.: One pill three times a day; or, the following has been recommended in gouty or rheumatic subjects:	
R.	Vini colchici radici ..... ʒii	8
	Sodii salicylatis ..... ʒiv	16
	Potass. iodidi ..... ʒii	8
	Essen. pepsini ..... ʒii	60
	Aquæ dest. ..... ʒss	15
M.	Sig.: Teaspoonful in water after meals. Used in conjunction with heat applied to back in form of hot bricks or hot water bottles.	

Acetanilid.

Johns, in *Amer. Med.*, states that acetanilid is not primarily an antipyretic but an analgesic; it is also an antipyretic, sedative, antispasmodic and antiperiodic. It is the best remedy for the relief of pains due to disturbance of nerve centers, dyscrasia of sensory nerve apparatus, fury of nerve storms, e. g., gastralgia, functional dysmenorrhea, sciatica, rheumatism, neuralgia, and migraine; when accompanied by marked irritability use the bromids. Acetanilid is good as an adjunct to modify the action of quinin, salicylates, opium, and calomel; aids the effect of quinin, relieves the bad effect of opium, and the author writes: "I know of no condition in which small doses of calomel, with or without soda bicarbonate, are generally used in which acetanilid could not be advantageously combined in the treatment." Dose .13 gm. to .52 gm. (gr. ii to gr. viii), maximum dose in 24 hours is 2 gm. (gr. xxx). Effect of the drug appears in half an hour, reaches its height in three hours, disappears in six hours.

Chlorosis and Amenorrhea.

Fothergill, in *Med. Record*, recommends the following formula:

R.	Acidi arsenosi ..... gr. i	06
	Ferri sulph., exsic. ..... ʒss	2
	Pulv. piperis nigri	
	Pilulæ aloe et myrrhæ, āā ..... ʒi	4
M.	Ft. pilulæ No. xl. Sig.: One pill three times a day after meals.	

Hemoptysis.

The *Therapeutic Gazette* for June discusses Mr. Milton's paper on this important subject in the *British Med. Jour.* of March 10. Milton divides the cases into three classes, or better, three stages, and recommends treatment according to the stage. Rest is of prime importance in any stage of this disease. In those cases where the hemorrhage is the initial sign of a pulmonary tuberculosis, he advises perfect rest until the hemorrhage ceases, followed by the gentlest form of exercise for a considerable period of time. The exercise causes the distribution of the blood to other parts of the body and thus actually diminishes the tendency to hemorrhage. The patient is not depressed by confinement to bed. If fever is present rest in bed is absolutely necessary. Food should be moderate in amount and easily digestible. When a large amount of blood is lost rest in bed and a liberal diet is essential. Assure the patient, and with perfect truth, that patients rarely die as the direct result of pulmonary hemorrhage. This same treatment may be applied to those cases in which the physical signs of consolidation are well developed. But in the cases which have cavity formation the condition is more grave and the lesion which produces it is more widespread. Rest, both general and for the cardiac and respiratory activity. The patient should be put to bed and the friends absolutely excluded; apply hot-water bottle to the feet. Administer morphin gr. ¼, preferably hypodermically; it should be repeated, if necessary, to relieve the patient's anxiety, quiet his nervousness, decrease the number of heart beats per minute and diminish the respiratory activity. A piece of ice in the mouth is refreshing and quieting. Milton doubts the advisability of applying an ice bag to any part of the chest. After the hemorrhage is controlled the diet should be light and non-stimulating, raw eggs and beef, raw beef sandwiches, beef juice, gradually increased to general diet. Avoid alcohol; if there is evidence of the bronchial tubes being blocked with blood morphin must not be given, as it is essential that the bronchial tubes be emptied by coughing. In a fourth class of cases, which are plethoric and have a weak spot in a pulmonary vessel, Milton believes there is an indication to lower the blood pressure by administering full doses of magnesium sulphate, a moderate and non-stimulating diet and 30 grains of sodium salicylate daily.

Stroud, in *Merck's Archives*, deprecates the use of ergot in pulmonary hemorrhage because of the action of this drug in raising arterial pressure. He likewise recommends rest, the strictest quiet, morphin and ice, and further, if the hemorrhage is unchecked, the extremities should be corded at the body, just tight enough to check the return of venous blood. The cords should be loosened gradually to allow the blood to return to the general stream. To prevent recurrence he recommends rest and quiet. The best remedy to use in these cases is calcium chlorid. The drug has no immediate effect, but its effect is more permanent than any other drug.

Calcium chlorid may be given as follows:

R.	Calcii chloridi	
	Glycerini, āā	℥i 30
	Aquæ dest. q. s. ad	Oi 480

M. Sig.: Tablespoonful three or four times a day; or:

R.	Codein sulphatis	gr. ¼ .015
	Ext. suprarenal	gr. iii .20
	Calcii chloridi	gr. xv 1

M. Ft. capsulæ No. i. Sig.: Give one such capsule three or four times a day.

Drug Therapy.

Abbott, in *N. Y. Med. Jour.*, makes a plea for "Truer Therapy" and more rational treatment of disease by the proper selection and administration of reliable preparations of drugs." It has become the fashion to deride drug treatment; it has become irreligious to take drugs. The tendency is to surrender to "quackery." We need a revival of faith in drugs, and this revival must be founded on a much-needed reform in the drugs themselves, in the methods of their application and a more precise knowledge and clearer conception of their physiologic and therapeutic action. The old-fashioned "shot-gun" prescription should be relegated to oblivion. He believes that the development of the so-called "therapeutic nihilism" is due to the loss of confidence in medicinal methods of treatment, which in turn results from failure to obtain effects by the administration of unreliable preparations of drugs. He believes that error in dosage will often cause failure of the remedy, and hence the necessity for obtaining an accurate rule for dosage. Such a rule is "give to effect, disregarding quantity." This rule is a perfectly safe one to follow if the physician uses trustworthy preparations. To obtain accurate results he believes in the use of active principles rather than trust to the uncertainty of the preparations of the crude drugs.

Medicolegal.

Damages for Wrongful Destruction of an Eye.—The Kansas City Court of Appeals holds, in the case of Orscheln vs. Scott, that a verdict for $2,500 is not too much for the wrongful destruction of an eye, there being no mitigating circumstances connected with the injury.

Admissibility of Evidence of Sclerosis of the Brain.—The Court of Appeals of Kentucky says that, in the will contest of Henning vs. Stevenson, the contestants complained that two physicians called by them as experts were not allowed to take the will and explain to the jury from the will what evidences they saw, from the handwriting and the structure of the instrument, that the testatrix was suffering at the time from arteriosclerosis of the brain. The witnesses were allowed to state to the jury fully the symptoms of the disease, and also to state, from a hypothetical case put to them, their judgment as to the testable capacity of the person indicated. To have allowed them to have taken the will and gone over it, stating what here and there they saw, in the omission of letters or proper punctuation, to indicate sclerosis, would have been to have opened up a wide field of inquiry. The court has a discretion in matters of this sort. The record before this court comprised something like 1,000 pages. The real facts about the testatrix were proved by a number of witnesses, and this court does not see that there was an abuse of discretion on the part of the court in refusing to allow the evidence in question, or that, if admitted, it could have had any appreciable effect on the case. The will was before the jury. They could see and any attorney could call their attention to anything in the will, either in the shape of the letters or the punctuation or the structures of the sentences that indicated sclerosis. The experts were permitted to tell all the signs of the disease, and one person could apply the symptoms to the writing as well as another. Bad punctuation, or the omission of a letter here and there, or badly constructed sentences are not confined to people who are suffering with sclerosis of the brain; and, therefore, what the writing really indicated was to be determined, not alone from expert testimony, but from common experience, as other like questions.

Things to Which Experts and Non-Experts May Testify.—The Supreme Court of Illinois says, in Chicago City Railway Co. vs. Bundy, a personal injury case brought by the latter party, that many objections were made to testimony by physicians and others as to the physical condition of the party suing after the injury, but that it sees no valid objection to any of that evidence. It was proper for witnesses to say that the plaintiff was in a nervous condition, even though they were not experts. This court has held that whether a person was sick or not is a fact requiring no special skill or science to understand, and that the fact may be proved by any one who knows it. City of Shawneetown vs. Mason, 82 Ill. 337. Again, it was earnestly insisted that it was error in the trial court to permit witnesses testifying to the nature of the plaintiff's injuries to state what she said to them in describing her bodily condition. But the Supreme Court says that these statements were made to physicians during actual treatment and in immediate connection therewith, though some of them were made after the commencement of the suit. This court has held that a physician, when asked to give his opinion as to the cause of a patient's condition at a particular time, must necessarily, in forming his opinion, be to some extent guided by what the sick person may have told him in detailing his or her pains and sufferings; but such declarations, being in favor of the party making them, are only competent when made a part of the *res gestæ* (the essential circumstances of the case), or to a physician during treatment, or on an examination prior thereto, and without reference to the bringing of an action to recover damages for the injury complained of, unless the examination should be made at the instance of the defendant with a view to the trial. The evidence objected to in this case came clearly within the rule. The Supreme Court further holds that counsel have a right to assume, within the limits of the testimony, any state of facts which they claim to be justified by the evidence, and to have the opinions of experts on the facts so assumed. The question may embrace such facts as are claimed to be established by the evidence, and, if the other side does not think all of the relevant facts are included in such questions, it may include them in questions propounded on cross-examination.

Fraud Order Against "Vitality Pills" Advertiser Upheld.—The United States Circuit Court in Missouri (Thayer, Circuit Judge), says that in the case of the Missouri Drug Company vs. Wyman, the company contended that all of the representations made by it to induce people to purchase its "vitality pills" were matters of opinion, and, being of that character, that persons who purchased on the strength thereof could not be said to have been defrauded. It further insisted that because all of the fraudulent representations that were relied on to prove the existence of a scheme to defraud were mere expressions of opinion, they could not, as a matter of law, accomplish a fraud: and that the postmaster general had no jurisdiction to find that the company was engaged in a scheme to defraud, and on the strength of that finding deprive it of the privilege of using the mails. This argument was based largely on some observations of the Supreme Court of the United States which were made *arguendo* in the case of School of Magnetic Healing vs. McAnnulty, 187 U. S. 94, reported on page 122 of THE JOURNAL, Jan. 10, 1903. In that case, however, it was a conceded fact (the case having passed off on a demurrer to the bill, which admitted all of its allegations), that the defendant who was proceeded against was doing business and inviting patronage from those having physical ailments on the professed theory that the human mind is largely responsible for bodily ailments, and that these could be cured or ameliorated by influences brought to bear on the mind of the patient, and that persons received treatment from the defendant with full knowledge that it was administered on that theory. In view of these facts the Supreme Court said, in substance, that the theory on which the defendant administered medical treatment might be erroneous, but no one could say with certainty that it was erroneous inasmuch as the truth or

falsity of the theory was wholly a matter of opinion; that those who received treatment with knowledge of the principle on which it was based could not be heard to say that they were defrauded; that, in view of the admission made by the government, it was legally impossible to say that the defendant was engaged in a scheme to defraud, and that the postmaster general had made a mistake of law (on account of which a court of equity could afford relief), in finding the existence of a scheme to defraud on an admitted state of facts where no fraud was possible. That case, the Circuit Court says, bore little analogy to this one, in which it appeared that the company, to induce the sale of its "vitality pills" for the cure of lost manhood, by its advertisements and circulars made certain statements of matters of fact which the postmaster general may have found, and probably did find, to be false and misleading, and to have been made with intent to deceive the public. It must also be borne in mind, the court says, that it is not always true that a misrepresentation, to amount to a fraud, must be a misrepresentation as respects some matter of fact, although such is the general rule. There are well-established exceptions to this rule. An opinion may sometimes be expressed under such circumstances as will render a person guilty of fraud; as, where one who is an expert, or who possesses peculiar knowledge of the value or the quality of an article expresses to another, who lacks such special knowledge, and who relies on the superior information of the person with whom he is dealing, an opinion as to the value or quality of the article which he does not honestly entertain, doing so for the purpose of deceiving him. In view of this exception to the general rule, some of the statements which the company appeared to have been in the habit of making with respect to the merits of its "vitality pills," treating them as expressions of opinion, might well be found to be false and fraudulent if they were not entertained by the company, but were made solely with a view of inducing the unwary to purchase its "vitality pills." Even if it believed that these pills had some medicinal value—which they may have had, as they appeared to be compounded in part of some old and well-known drugs which possessed some tonic properties—yet the latitude ordinarily allowed to a vendor to puff his wares would not justify such representations as the company's literature disclosed. And the court holds that the finding of the postmaster general that the company was engaged in a scheme to obtain money through the mails by means of false and fraudulent representations was one which this court was not authorized to review or overrule, inasmuch as the finding was based on evidence which certainly tended to sustain it, and in that event the statute empowered the postmaster general to judge of its weight and sufficiency.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 2.

1 More Remote Consequences of Infectious Bile. J. B. Deaver.
2 *Edema. S. J. Meltzer.
3 Pneumopericardium. W. B. James.
4 *Tuberculosis as It Affects the Skin. M. B. Hartzell.
5 Case of Ruptured Intestine with Artificial Anus, Fecal Fistula and Opening Through the Scrotum. E. A. Vanderveer.
6 *Measurements of Blood Pressure in Fevers Before, During and After the Administration of Strychnin. R. C. Cabot.

2. Edema.—This is the first of a series of lectures on the physiologic and pathologic factors concerned in the formation of edema, delivered by Meltzer. He discusses the several theories on the formation of lymph and the pathology of edema, the vitalistic and the mechanical theories of the phenomena of life.

4. Tuberculosis of the Skin.—Hartzell says the most frequent form of tuberculous diseases of the skin, due to the presence of the tubercle bacillus, is that known under the name of lupus vulgaris. It is found in less than one-half of 1 per cent. of the diseases of the skin met in the United States and Canada. Another variety of skin tuberculosis is tuberculosis verrucosa cutis, which is closely related to lupus. In all probability it is due, in most instances, to direct inoculation. Tuberculosis of the internal organs may follow it. A very infrequent variety is the verruca necrogenica, the so-called "anatomic wart." One of the earliest recognized forms of tuberculous affections of the skin is the tuberculous ulcer known as miliary tuberculosis of the skin. It is usually easy to demonstrate the tubercle bacillus in considerable numbers in the secretion from these lesions or in scrapings obtained from the bottom of the ulcers, whereas in lupus it is usually necessary to examine many sections before this demonstration succeeds, owing to the scanty numbers of the organism. In the majority of cases it is secondary to pulmonary or intestinal tuberculosis and runs an acute course. A scrofuloderm is an ulcerated tubercular lesion of the skin occurring usually in connection with tuberculous adenitis, especially in the region of the neck. Erythema induratum is a tuberculous nodule situated most frequently on the calf of the leg, as a rule in young women. Lichen scrofulosorum is a papular eruption seen usually in children and young adults who, as a rule, present other evidences of tuberculosis elsewhere. The so-called tuberculides are eruptions due, not to the tubercle bacillus, but to the toxins produced by this organism in some focus more or less remote from the seat of the eruption. The tubercle bacillus can not be demonstrated in these lesions, as a rule. When present, the lesion is called "bacillary tuberculides." Under the name "folliclis" a peculiar eruption has been described, occurring usually on the extremities. It begins as a bright red nodular which, in the course of a few weeks or a month, becomes pustular; a small crateriform ulcer forms, covered with a blackish or brown crust, which in time falls off and leaves a small pocklike scar. The disease is a chronic one, lasting months and even years. Lupus erythematosus is not a tubercular disease of the skin, all efforts to find the tubercle bacillus having failed completely. Pityriasis rubra probably bears some relation to tuberculosis of the skin. Constitutional treatment of tuberculosis of the skin differs in no respect from that of tuberculosis of other organs. As to the local treatment—in lupus vulgaris two remedies are of value, concentrated light employed after the method of Finsen, and the Roentgen ray. The Finsen light is preferable when the area of disease is moderate in extent, but the length of time required for the exposures almost prohibits use in very extensive cases. In such the Roentgen ray is preferable. If there is but a single patch of disease, of moderate extent, and favorably situated, excision with subsequent transplantation of a flap of sound skin is the best treatment. In verrucose tuberculosis, curettement followed by cauterization with caustic potash, or the application of a strong pyrogallol plaster, gives the best results. Lichen scrofulosorum responds promptly to cod-liver oil given internally and applied locally. Scrofulous ulcers should be kept as nearly aseptic as possible and some stimulating ointment, preferably one of the mercurial ointments, applied two or three times a day. The application of dry powder of iodoform, europhen, aristol or other iodin compound is frequently of value.

6.—See abstract in THE JOURNAL, xlii, p. 1378.

Medical Record, New York.

July 2.

7 Distinctive Character of the Temperature Curve of Measles and of Scarlet Fever; and the Treatment of Hyperpyrexia in These Diseases by Baths of Increasing Temperature. H. W. Berg.
8 *Grave Anemia Due to Hook-worm Infection. L. M. Warfield.
9 *Acute Tetanus Cured by Intraneural Injections of Antitoxin. J. Rogers, Jr.
10 Non-significance of Clinical Symptoms in Determining the Pathologic Conditions of Appendicitis. A. P. Stoner.
11 Hygiene and Gynecology. C. A. Von Ramdohr.

8. Hook-Worm Infection Anemia.—Warfield urges that in cases of anemia one should always examine the stools for intestinal parasites because these latter may be the cause of the anemia: in fact, if the cases come from the country and give a history of previous ground itch and attacks of diarrhea, it is sure to be an anemia caused by parasites. He has studied these cases very carefully and has found that many so-called

cases of malarial anemia really are cases of anemia due to uncinariasis, and that in most cases it is possible to trace the history back to one or more attacks of ground itch. From the histories and general appearances, cases of uncinariasis may resemble those of pernicious anemia. The blood conditions in the two diseases may be similar, except for the eosinophilia, which always occurs in grave cases of uncinariasis. It is of paramount importance to make an exact diagnosis because one condition is easily curable, whereas the other is rarely ever cured, and therefore proper treatment should be instituted in the former condition right in the start so as to reap the benefits from it early. The treatment in these cases of parasitic anemia is simple and successful, although in severe cases it is necessary to continue specific treatment at intervals until the stools are free from eggs. A dose of castor oil or Epsom salts is given in the evening, and from then until noon of the following day no food is allowed. At 8 a. m. 30 gr. of finely powdered thymol are given either in capsule or with a little water; at 10 a. m. this dose is repeated, followed at noon by a large dose of castor oil or salts (1 to 2 ounces). In order to facilitate the action of the thymol some give whisky or brandy with it, but as the combination on several occasions has proven to possess distinctly depressing and toxic actions, it is safer to administer the drug in capsules or with water alone.

9. **Cure of Acute Tetanus.**—Rogers reports a case of a boy of 11, who sustained a punctured wound of the sole of the left foot from a rusty nail. On the morning of the seventh day symptoms of tetanus developed. The boy was immediately put to bed and given 20 c.c. of antitoxin subcutaneously, and the same dose again in the afternoon. The symptoms became progressively worse and on the morning of the following day it was decided to resort to intraneural injections of antitoxin. Under general anesthesia the anterior crural nerve was exposed just below Poupart's ligament and about one-half dram of antitoxin injected into its substance. The same procedure was adopted with the great sciatic nerve, opposite the gluteal fold posteriorly. A rather fine needle was employed, and while the nerve was held on the index finger the needle was several times withdrawn and reinserted into the substance of the nerve to insure some wounding of its fibers, as experimentally this seems essential to secure entrance for the antitoxin. The patient was then turned over and the needle introduced into the spinal canal between the laminæ of the second and third lumbar vertebræ. The needle was manipulated back and forth in the spinal canal until its motion produced a twitching of the left leg (the right leg contained the source of the infection). This was intended to make an abrasion of some of the nerves in the cauda equina, and the twitching was considered evidence of the success of the maneuver. One and a half drams of antitoxin were injected into the spinal canal subdurally. The wound in the foot was opened up widely, scraped out, swabbed with tincture of iodin and packed with iodoform gauze. The presence of tetanus bacilli in the wound was demonstrated culturally. The condition of the patient continuing the same, another injection of antitoxin was made into the spinal canal between the laminæ of the second and third dorsal vertebræ. The condition of the patient was changed within a few hours from one of impending death to one of comparative well-being. The author is convinced of the efficacy in tetanus of injections of antitoxin into the substance of the motor nerves of the part of the body primarily infected and into the spinal cord. The tetanus toxin and antitoxin can only reach nerve cells through nervous tissue, and normally, this course begins with the terminal filaments of the axis cylinders.

Medical News, New York.

July 2.

12 Medical Education in Colorado. S. G. Bonney.
13 Drainage in Cases of Acute Appendicitis with Spreading Peritonitis. L. W. Hotchkiss.
14 *Primary Myokymia; with Report of a Case. R. M. Daley.
15 *Diagnosis and Treatment of Internal Hemorrhoids. H. A. Brav.
16 Observations on Obstetrics in General Practice. J. F. McNulty.

14. **Myokymia.**—This is a disorder characterized by fibrillary and wavelike contraction of the individual fibers of various muscles of the body without locomotor effect. The condition rarely occurs primarily. Usually it is a minor symptom occurring in diseases of toxic origin such as lead and mercurial poisoning, etc.; and after attacks of poliomyelitis, neurasthenia, sciatica, and diseases characterized by rapid bodily wasting. The author's case was primary, occurring in a young man aged 28. About a year ago, after walking for eleven hours steadily, he noticed a twitching in the muscles in the calves of his legs. The symptom has increased in severity, but otherwise he feels well except for some occasional slight disturbance. Physical examination was negative except for a very faint mitral systolic murmur transmitted only to the anterior axillary line. There is a fibrillary twitching of all the muscles of the legs and the posterior muscles of the thigh (the adductors and the quadriceps not being involved); moderate tremor of the hands. The distribution of the muscles affected is symmetrical, the contractions occurring in every visible portion of the muscle and, evidently, throughout the entire muscle substance. Contractions may occur in different parts of the muscle at the same time, and the strength and rapidity of the contractions vary considerably. A sharp blow on the muscle brings out a marked contraction. There is no atrophy; the electrical reactions are negative; no ocular disturbance; superficial reflexes are undisturbed, but the deep reflexes are increased; no Babinski. The patient has been under increasing doses of strychnin up to gr. 1/15 t. i. d.; arsenic in increasing doses up to minim 15 t. i. d. The author believes that the contractions are due to a perversion of the normal efferent impulses, and that the cause of the perversion is due to some disturbance of the peripheral motor neuron. The case is still under treatment.

15. **Hemorrhoids.**—Brav considers the diagnosis and treatment of internal hemorrhoids, cites two cases in point, and describes his non-operative treatment, which consists of an injection into the hemorrhoid of from 5 to 10 drops of a solution consisting of one part of pure carbolic acid to two parts of glycerin and two parts of water. Two and sometimes three tumors are injected at a time, and the injection may be repeated after the lapse of one week. This is followed by gradual decrease in the size of the tumor, the prolapse disappears in a few weeks, and with it the bleeding, pain and discomfort. He does not advocate this method in preference to the radical cure by operation, but resorts to it when patients refuse surgical treatment. It is important, in the first place, to determine whether the disease is primary or secondary to some affection of the pelvic organs. Operative treatment is not indicated in the first stage of hemorrhoidal disease, but in the third stage no other treatment is indicated. The true value of the non-operative treatment in the second stage of hemorrhoidal disease frequently is under-estimated.

New York Medical Journal.

July 2.

17 Herman Brehmer and the Semi-centennial Celebration of Brehmer's Sanatorium for the Treatment of Consumptives, the First Institution of Its Kind. S. A. Knopf.
18 X-ray Therapeutics. G. H. Stover.
19 *Results of X-ray Treatment. S. B. Childs.
20 Carbohydrates as Etiologic Factors in Stomach Disorders. (Concluded.) W. E. Deeks.
21 The Fever of the Puerperium (Puerperal Infection). (Concluded.) J. H. Burtenshaw.

19. **Results of X-Ray Treatment.**—Childs summarizes some of the results he has obtained from the use of the *x*-ray in the treatment of epithelioma, carcinoma, sarcoma, epulis, rodent ulcer, tuberculous glands and joints, Hodgkin's disease, lupus erythematosus, and acne rosacea. He concludes as follows:

First.—The therapeutic field of greatest usefulness of the *x*-ray is with superficial epitheliomata, rodent ulcer and lupus vulgaris, when the area involved is conspicuous, as on the face or neck, and where a cosmetic result is particularly to be desired.

Second.—Healing by the *x*-ray leaves the smallest and least perceptible scar: for, when properly applied, it destroys only diseased tissue, and particularly commends itself for use in those localities where it is undesirable to sacrifice the surrounding tissues.

Third.—The *x*-ray is very efficacious in many obstinate cases, which have resisted the ordinary methods of treatment, such as acne rosacea, chronic localized patches of eczema and psoriasis, lupus erythematosus and kindred skin diseases.

Fourth.—The results in tuberculous glands, when no suppurating focus is present, are encouraging, and the enlarged masses of

glands in Hodgkin's disease appear to be susceptible to the treatment.

Fifth.—The *x*-ray should not be employed in any operable, deep, malignant growth, with two exceptions: First, as pointed out by Coley, where a surgical operation would sacrifice an extremity, and even in this case the value of the *x*-ray is uncertain, and is determined by a few weeks' trial. Second, as mentioned by Pusey, with a view to limiting the operation by checking the growth, when immediate operation is inadvisable.

Sixth.—The *x*-ray may be of service even in inoperable malignant growths, by relieving pain, diminishing discharges and lessening their offensiveness, and in many cases life may be prolonged in comparative comfort for a considerable period of time. Furthermore, from these apparently hopeless cases a number of remarkable improvements and a few recoveries have been reported.

Seventh.—The *x*-ray should be used as a prophylactic against return after all operations for the removal of deep malignant growths.

Eighth.—The area of exposure should be wide, and the intensity and quality of the rays should be adapted to each case.

Boston Medical and Surgical Journal.

June 30.

22 Anomalies of Thyroid Secretion. F. C. Shattuck.
23 Significance of the Tuberculosis Crusade and Its Future. E. O. Otis.
24 Physiology of the Ureter. B. Robinson.
25 *Conservative Surgery of the Uterine Appendages with Especial Reference to the Ovaries. E. L. Twombly.

25. **Conservative Surgery of Uterine Appendages.**—The pendulum of surgery in women's diseases, says Twombly, swings back and forth. In former years it was for the complete removal of all diseased organs, but now it is for the preservation of the same and of any part which may perform its function again. While each man has his individual way in doing his work, yet all concur in the following conclusions: For myomectomies by the abdominal route no deaths or bad results have been noticed, and the animal suture has invariably been used. If one ovary is diseased and the other ovary healthy, the diseased one is generally removed. Where both ovaries are diseased, resection of one or both is practiced. Whatever healthy ovarian tissue there seems to be, however, small, is left. With regard to the preservation of the ovaries or resection of the same, a conservative operation is not indicated (1) in women 40 years and over; (2) in gonorrheal affections, where the pain and distress cause continuous suffering; (3) in malignant disease of one ovary such as papilloma, sarcoma or carcinoma; (4) in tumors involving the whole organ; (5) in tuberculosis of the ovary. In all other cases, and especially in young women where some risks must be taken to preserve the menstrual life, the conservative operation should be done. Resection should be done in the case of non-proliferating cystic tumors which have their origin in the parenchymatous zone or cortical portion. If seen early much of the ovary may be saved. If seen later, when much of the cortex is involved, and we have the so-called adenoma, the whole ovary will have to be sacrificed. The author pleads that an exploratory incision should be made in an ovary which has been the seat of constant pain, with exacerbations during the menstrual periods even if it appears normal or slightly enlarged. The same is true of both ovaries. As a large cyst involving the ovary is likely to be duplicated on the other side, exploratory incision in the second ovary is advisable, thereby lessening the chance of recurrence and saving a secondary operation. Careful resection of the ovaries presenting any abnormalities would eliminate many a cyst and the ovaries still perform their functions. Pain would be relieved by a wedge-shaped incision and the wedge removed in thickened capsules, and by more careful approximation, adhesions, which are stated to be the greatest cause of secondary operations, would be more and more avoided. Conclusions drawn from all observers agree that in young women who are desirous of having children part of the ovarian tissue should be preserved even at some risk. They also affirm that resection of an ovary is not a cause *per se* of secondary operation or of increased mortality. In doubtful cases the author advocates the exploratory incision because (1) it has not been proven to increase the danger; (2) it is a wise proceeding when the other ovary is cystic or contains a papillary growth; (3) it may prevent a secondary operation; (4) it should prevent removal of a normal ovary; (5) it may disclose a growth within or beginning cystic formation which can be easily excised; (6) it is a conservative operation, consuming but little time.

St. Louis Medical Review.

July 2.

26 Chronic Appendicitis. C. Lester Hall.

Buffalo Medical Journal.

July.

27 *Surgical Treatment of "Dyspepsia." R. Park.
28 Present Status of Vaccination. H. D. Wey.
29 Accurate Determination of Blood Pressure as an Aid to Diagnosis. W. H. Glenny.
30 Intestinal Surgery. M. Clinton.

27. **Surgical Treatment of "Dyspepsia."**—Under this title Park discusses conditions in the abdomen which are more or less associated with those disturbances so often collectively spoken of as "dyspepsia" and "indigestion." Although some of these conditions may be treated medicinally with some benefit, yet many of them would more certainly end in a cure if subjected to early surgical treatment. An apparently simple disease may terminate in a fatal one, and unless appropriate treatment be instituted early the prognosis always is bad. The diseases of the stomach coming under this category are cardio-spasm, pyloric obstruction, gastric ulcer, gastric dilatation, gastroptosis, cancer of the stomach and ulcer of the duodenum. Other conditions which may give rise to the symptoms mentioned in the title are diseases of the gall bladder and of the bile ducts, and disease of the pancreas. In conclusion Park summarizes thus: Operation is indicated in:

Gastric Ulcer.—Either gastrotomy with direct attack on the involved surface, or gastroenterostomy (posterior), to afford rest and a more direct outlet.

Gastric Dilatation.—When lavage and the customary internal measures have proved disappointing, and always when pylorostenosis exists.

Gastric Cancer.—Early if possible, hoping to effect a cure; when late it may be still possible to make a gastroenterostomy which shall prolong life. In the most advanced cases, one may have to be content with a jejunostomy for temporary purposes.

Gastric Anomalies.—Such as hour-glass stomach.

Pyloric Obstruction.—Here one must choose as between excision with end-to-end reunion, pyloroplasty or anastomosis, preferably posterior.

Duodenal Ulcer, Cancer and Stricture.—A posterior gastroenterostomy is clearly indicated.

Biliary Obstruction.—All chronic and many acute cases, whether due to intrinsic or extrinsic causes (cholangitis, gallstones, cancer, old adhesions). In these some operative intervention is imperative; whether it shall consist of extirpation, opening and drainage, or anastomosis, depending on the conditions revealed through the exploratory incision.

Pancreatic disease of almost every type, whether acute or chronic. In the former, posterior drainage must usually be added to the attack from the front. In the latter, it will usually suffice to open and drain the biliary passages; rarely a cholecystenterostomy may be called for.

Finally, in all cases of acute pain in the upper abdomen accompanied or followed by vomiting, especially of recent or old blood, by tympanitis, muscle spasm and collapse, and in all chronic cases of pain and tenderness in the region described, with a history of recent and particularly of long standing symptoms, of emaciation, dyspepsia and indigestion, with or without perceptible tumor, but with rigidity of the rectus and other abdominal muscles, surgical exploration, after due preparation, is indicated, and under circumstances which may allow the surgeon to resort to every technical and life-saving expedient known to the art.

Ophthalmic Record, Chicago.

June.

31 Determination of Heterophoria. E. H. Schild.
32 Mr. Worth's Opinion of Muscle Training. D. W. Wells.
33 *Case of Exophthalmus of the Left Eye of Obscure Origin. E. Swasey.
34 New Operative Procedure for Correction of Badly Placed Canalicular Cuts. W. H. Snyder.
35 Transient Monocular Blindness. T. H. Jamieson.
36 *Case of Retinal Detachment That Yielded Immediately to Treatment. H. M. Fish.
37 *Method of Advancing the Tendon of the Recti Muscles. H. D. Bruns.
38 An Eye Bandage. R. Murdoch.

33. **Exophthalmos of Obscure Origin.**—Swasey reports a case of well-marked exophthalmos of the left eye. The patient's family and personal history were negative except that her mother was very myopic and one maternal aunt is blind from optic nerve atrophy. Her trouble came on suddenly, the first symptom being diplopia, which was followed by vertigo and some headache. There was no exophthalmos at first, and when it did appear there was no pain in or about the eyes, no congestion of conjunctiva or lids and no discoloration. The eye could be partially returned to the socket under gentle pressure and without special pain. There was plus tension, but the eyeball was not hard. Examination by the ophthalmoscope revealed a well-marked neuroretinitis, with prominence of the disc, blurred outline, large veins, and congestion of the retina. The macular region was surrounded by a cluster of

bright white spots, a typical picture of albuminuric retinitis. The patient was blind in this eye. The heart, kidneys and thyroid gland were normal. Power in the muscles of the eyeball was deficient. Treatment consisted of 45 gr. of potassium iodid daily, mercurial inunctions at night, also some headache powders and bromid of potash and the faradic current. The exophthalmos has disappeared, the eye moves fully over the normal area and is normal in appearance.

36. **Retinal Detachment Yielding to Treatment.**—Fish reports a case of retinal detachment, occurring in a lady 38 years of age, due to a serous exudate between the retina and choiroid, caused by an inflammation of the left frontal sinus. Treatment consisted of thorough cleansing and drainage of the frontal sinus.

37. **Advancing Tendons of Recti Muscles.**—Bruns describes his operation as follows: The eye being cleansed, and a few drops of a solution of cocain and adrenalin (cocain, 4 per cent., 2 minims; adrenalin chlorid, 1 to 1,000, 2 minims; water, 14 minims) having been injected along the tendon to be shortened, the conjunctiva is caught up and snipped with scissors so as to give an opening perpendicular to the length of the tendon and a little behind its insertion. Dissect up forward and backward to expose the field of operation. The middle blade of a Clark hook is pushed under the tendon; it is passed backward and forward so as to rip up the tendon and cause it to lie flat on the hook. The little nut or sleeve on the stem is turned until the central hook holding the tendon comes level with the two side ones and then, still carrying the tendon, rises above them. The two lateral hooks press the tendon against the eyeball, the central hook raises the narrow portion of the tendon between them into as large, long or high a tuck as may be desired. His description continues as follows:

> While the loop or tuck is held up, the needle carrying the doubled thread is passed between the eyeball and the two lateral hooks through both folds or sides of the tuck at a point midway the breadth of the tendon. The needle is cut off, the two sutures thus formed are tied under the lateral hooks, the one at the lower and the other at the upper edge of the tendon, as tightly as the strength of the silk will allow. Before withdrawing the hook one small needle of a suture carrying a needle at either end is passed through the hole in the beak of the central hook; the sleeve or nut is turned down, the pressure of the hook carrying the tendon is relaxed, and it is withdrawn, carrying the double-needled thread with it. After the central hook is free from the loop of the tendon, the thread, which is doubled on the side to which the hook has been drawn, is cut and immediately re-needled. The tuck, securely formed and fastened in the course of the tendon, now stands erect, carrying in its loop a double-needled suture. The upper needle of this suture is passed beneath the anterior lip of the conjunctival wound, getting a firm hold on the episcleral tissue, until it emerges at a point perpendicularly above the center of the cornea; the lower needle is passed in a similar way until it emerges at a point perpendicularly below the center of the cornea. If, now, the upper needle is carried back and passed (from without inward) through the posterior lip of the conjunctival wound, above its center and about one-eighth inch from its edge, carried along beneath the conjunctiva about one-fourth inch, made to emerge and the suture it carries is tied to that which was brought out below the corneal margin, we will have, not only a pulley suture, *à la Prince*, which closes the conjunctival wound, but a "guy-suture," which holds the loop of our tuck flattened down and drawn strongly forward and held firmly in place until organic adhesions seal it permanently in its new position. This guy-suture also prevents the possibility of the sutures by which the tuck is formed and fastened from slipping or coming away, and holds the eyeball drawn toward its new position until adhesion is complete. This takes place in about a week or ten days, when the guy-suture, having fallen slack, should be cut at any point of its course and drawn out.

Therapeutic Gazette, Detroit.

June 15.

39 Treatment of Syphilis. H. M. Christian.
40 Antiseptic Treatment of Typhoid Fever. L. Kesteven.
41 Carbonate of Creosote in Pneumonia. I. L. Van Zandt.
42 Clinical Importance of the Specific Gravity and Alkalinity of the Blood. H. Richardson.
43 *New Modification of Operative Procedure for Retroflexion of the Uterus. E. E. Montgomery.

43. **New Operation for Retroflexion.**—Montgomery describes his new modification of an operation for retroflexion of the uterus. He opens the abdomen in the median line, picks up a loop of the round ligament about one and one-half inches from the angle of the uterus, passing the ligature beneath the entire ligament. Both ends of the ligature are carried by a Deschamps needle through an opening in the peritoneum anterior to the round ligament to the parietal surface, and beneath the parietal peritoneum to a point about the outer margin of the rectus muscle, where it is carried through the abdominal wall. The two ends of the ligature drawn taut, the opening is enlarged by introducing the point of the scissors and separating them so that the ligament is brought up easily. The same is done to the opposite ligament, and the projecting loops are fastened by sutures to the aponeuroses, the final suture being introduced in such a way as to decrease the size of the opening through which the loop has been brought. This operation holds the uterus forward, affording it mobility, introduces no adhesions or extraneous material within the abdominal cavity, yet affords structures which will undergo hypertrophy and involution in the event of pregnancy. The operation is of advantage in cases in which there is a tendency to prolapse of the ovary and tube, the relation of the retracted broad ligament to these organs forming a shelf on which they are more likely to rest; in cases of femoral hernia, decreasing the directness of the pressure of the intestine on the femoral opening.

Annals of Surgery, Philadelphia.

June.

44 *Operative Treatment of Hypertrophied Prostate. F. S. Watson.
45 Primary Carcinoma of the Prostate. G. W. Hawley.
46 Revival of Suprapubic Prostatectomy. F. D. Gray.
47 Intradural Tumor of the Cervical Meninges. H. Cushing.
48 Sarcoma of the Tongue. C. B. Keenan.
49 Malignant Disease of the Larynx; Total Laryngectomy. W. I. Terry.
50 Self-retaining Abdominal Retractor. F. F. Simpson.
51 Extensive Subcutaneous Laceration of the Abdominal Muscles. D. N. Eisendrath.
52 *Radical Cure of Femoral Hernia. F. C. Kammerer.
53 Experimental Surgery. D. Gordon, Jr., and J. W. D. Maury.

44. **Treatment of Hypertrophied Prostate.**—Watson contributes a very exhaustive paper on the operative treatment of the hypertrophied prostate, in which he gives a historical review, a summary of operative methods and modifications, describing at length the various perineal radical operations, suprapubic radical operations, combined operations, indirect operations, their advantages and disadvantages, and the so-called palliative operations. He considers in particular the Bottini operation, quoting statistics as to the results obtained. The length of the article and the number of subjects considered, make an abstract an impossibility, therefore we submit some of the author's conclusions:

> When there is not a free choice of method, because of conditions presented, the most important single factor in determining whether or not radical operative treatment should or should not be applied is the capability, or the reverse, of the renal function. Other factors to be considered are the general strength or feebleness of the patient, his comfort or suffering, and the probability of the continuance of the one or the occurrence of the other, if operative treatment is not applied. Radial operative treatment has not as yet reached the status at which we are justified in saying that all cases of prostatic hypertrophy should be submitted to it as soon as the condition is clearly made out and has begun to give rise to slight symptoms.
>
> But we are justified in saying that patients should be given the benefit of it at a much earlier stage of the malady than it has been customary to apply it, and that where it is applied by those skilled in its performance, as soon as the hypertrophy can be clearly detected by examination, and if at the same time it is already giving rise to well marked symptoms, and the patient's condition is not unfavorable to the performance of an operation of this magnitude, the mortality of the operations, were they applied at that time, will be a trifling one, and their risks not nearly so great as those entailed by the use of the catheter, assuming the latter to have been employed instead and under the same conditions.
>
> The operations should be undertaken under favorable circumstances as soon as the above conditions occur.
>
> With regard to choice of operation the following are the writer's conclusions:
>
> Under conditions in which there is nothing to prevent a free choice of method:
>
> 1. The total removal of the gland by the best of the perineal technic is that of choice.
>
> 2. When any condition is present which makes the perineal operation too difficult of performance, or is a contraindication of any sort to its application, the suprapubic operation is the operation of choice, and when contraindications are present which make this operation undesirable, the Bottini becomes the operation of choice, and when the patient's condition is such as to make any of the above three methods inappropriate, and we are obliged to do something, we will do a palliative operation for drainage.
>
> Cystoscopic examination should, when it can be readily done, precede operations of all sorts in which there is any doubt as to the exact nature of the hypertrophies, and is essential to the proper performance of the Bottini. Its utility with regard to the other operations is that of learning whether or not there is present a middle lobe of such size and position as to make the perineal operation especially difficult of performance.

52. **Femoral Hernia.**—Kammerer believes that the Lotheissen operation for the radical cure of femoral hernia is far superior to other similar operations; that the modification by

Gordon is based on the best anatomic and mechanical principles, and therefore is preferable to the operation as originally devised. He has operated by this method on seven cases, but it is too early to make any definite statement as to the ultimate success of the operation. Quite a large number of cases have been published by other surgeons, and in none of them has there been a recurrence of the hernia. It must be remembered, however, that most femoral herniæ can be radically cured by simple ligation and removal of the sac, that some of them recur even five years after operation (Schede); therefore, it is difficult to compile satisfactory statistics because the question at issue involves only a small percentage of all the cases operated on.

American Journal of Obstetrics, New York.

June.

54 Peritoneal Drainage. H. C. Taylor.
55 *Placentation in a Uterus Duplex Bicornis Gravis Menses 1-2. M. Herzog.
56 *The Progress of Ureteral Surgery. J. W. Bovée.
57 Puerperal Hematoma. W. A. N. Dorland.
58 Cystic Degeneration of the Ovary. T. Findley.
59 Care of Premature Infants. V. P. Blair.
60 Report of 975 Consecutive Recorded Cases of Childbirth, in Private Practice, Without a Maternal Mortality. J. S. Hammond.
61 Relations of the Alimentary Canal to Pelvic Disease. W. P. Carr.
62 *Nasal Dysmenorrhea. G. Kollscher.

55. **Placentation in Uterus Duplex Bicornis.**—Herzog reports a case of this kind, with the exhibition of gross and microscopic specimens and presents the following conclusions:

1. The syncytium, as clearly shown by a comparative study of the right and the left side of this uterus duplex, containing an ovum in the right cavity, is neither derived from the maternal vascular endothelium nor from the lining epithelium of the uterine mucosa. Positive evidence that the syncytium has phagocytic properties has not been found, but the conditions as far as demonstrable rather speak in favor of the view that the rapidly extending syncytium insinuates itself into the clefts of the decidua, and between the decidual cells, and finally penetrates into the enlarged capillaries through the stomata of their extremely thin walls. In so doing the endothelia are to some extent displaced.

2. The cervix shows hypertrophied muscle cells, but its mucosa does not show the structure of a decidua, but rather a very moderate amount of hypertrophy.

3. *Fetal and Maternal Blood.*—The chorion and the villi in a placenta one to two months old contain blood vessels. The statement made by Gebhard that no blood vessels appear in the villi before the third or fourth month is not correct. The chorionic and villous vessels of a placenta one to two months old contain nucleated red blood corpuscles only of the type of metrocytes of the first generation. Leucocytes are entirely absent. The intervillous space contains maternal blood of the type of the normal blood of the adult.

56.—See abstract in THE JOURNAL, xlii, p. 118.

62. **Nasal Dysmenorrhea.**—Kolischer discusses the relationship between the sexual spots in the nose and dysmenorrhea. He believes that we are in error when we associate these two, and that the so-called Fliess treatment for the relief of menstrual pain is not founded on pathology *per se*, but is purely psychic. He says that many cases of dysmenorrhea are based on general hysteria, and often a cure of the latter will also cure the former. At the same time, any interferences may relieve hysterical pain, and such relief may last for varying periods of time. He has treated quite a number of cases according to the Fliess method, but without permanent success. According to the advocates of this method, these unsuccessful cases would be classed as not being of nasal origin, the claim usually put forth when cocainization of the nares fails to relieve menstrual pain. He cites several cases in support of his view. In all of them cocainization gave the patient more or less relief for the time being, but when subjected to a general treatment for hysteria, the relief was permanent. In two cases in which nasal cocainization furnished prompt temporary relief he succeeded at the next two periods in completely subduing the beginning pains by the internal administration of antipyrin. He believes (1) that the right to proclaim nasal dysmenorrhea as a clinical entity is not established; (2) the influence of cocain on dysmenorrhea can be explained by the general intoxication of the system with this alkaloid; (3) every patient suffering from menstrual pains should be examined as to general hysteria; (4) the administration of cocain, especially in nervous patients, is not to be recommended on account of the deletory influence of this drug on the nervous system and the danger of habituation; (5) in the absence of anatomic abnormalities and of hysteria massage should be given, or the patient should be advised to ride a bicycle.

Pennsylvania Medical Journal, Pittsburg.

June.

63 *Treatment of Suppurating Ulcers of the Cornea. L. H. Taylor.
64 Concerning Certain Cases of Asthenopia and Eyestrain Which Are Independent of Refractive Error and Muscular Imbalance. G. E. de Schweinitz.
65 *Report of a Case of Cerebral Thrombosis. C. W. Burr and D. E. Pfahler.
66 Affections of the Eye Associated with Disease of the Contiguous Sinuses. S. D. Risley.
67 Result of a Year's Observation of Gastroptosis. J. D. Steele and A. P. Francine.
68 *Operative Treatment of Strabismus. W. Reber.
69 Differential Diagnosis of Exophthalmos. J. E. Willetts.
70 *Surgical Treatment of Facial Palsy. C. H. Frazier.
71 *Heredity in Atrophic Rhinitis. L. S. Somers.

63.—See abstract in THE JOURNAL, xli, p. 1105.

65.—Ibid., p. 1040.

68. **Strabismus.**—Reber says that it is unjustifiable to advocate operation for strabismus until we have considered carefully the following factors: Hereditary influence, refractive status, degree of deviation, age, visual acuity, status of fusion faculty and outward swing of visual axis. Among the operations directed to the cure of squint are tenotomy, advancement of the tendon with and without Tenon's capsule, and resection of the tendon with and without the capsule. For low-grade deviations tendo-muscular operations suffice, but for strabismus of 20 degrees or more, resection, including the conjunctiva and capsule, offers the best results. The operation brought forward by Worth has furnished uniformly good results in the author's work. He recommends this operation because of its simplicity, ease of performance and, because advancement is tedious and tenotomy simple. He concludes by giving the following indications for tenotomy and advancement in adults:

1. In monocular convergent strabismus, advancement of the external rectus of the squinting eye if of moderate degree; combined with tenotomy of the internal rectus of the same eye if of high degree.

2. In binocular or alternating convergent strabismus, advancement of both external recti if of moderate degree. In rare cases it must be combined with tenotomy of both internal recti.

3. In monocular divergent strabismus, advancement of the internal rectus and the accompanying structures, along with tenotomy of the external rectus.

4. Binocular divergent strabismus, advancement of both internal recti (by Worth's method) and if necessary tenotomy of both external recti later.

5. If there is a plainly manifest upward or downward deviation of either eye, correction of such deviation by tenotomy should always precede by a week or two any surgery directed to the lateral muscles.

70. **Facial Palsy.**—Frazier reports a case of facial palsy the result of a self-inflicted gunshot wound. The ball entered the external auditory meatus and there was every reason to believe that the facial nerve was completely severed in its course through the petrous portion of the temporal bone before it made its exit from the stylo-mastoid foramen. Because of the nature of the injury there was no question as to the justifiability or propriety of recommending an operation. An incision was made along the anterior border of the sternum stylo-mastoid muscle from a point 2 cm. above the tip of the mastoid process to a point below the bifurcation of the common carotid artery. Exposed to view were the diagastric muscle, the descendens noni nerve, and the occipital artery, the posterior surface of the parotid gland and the root of the facial nerve. The hypoglossal nerve was dissected free for a distance of about 2 cm. after it passes around the external carotid artery, thus exposing a sufficiently long section of the nerve, which, when reflected, could be brought in apposition with the stump of the facial nerve without undue tension. By retracting the sterno-cleido mastoid muscle and displacing the parotid gland forward, the trunk of the facial nerve was exposed. It was divided as close to the bone as possible and an end-to-end anastomosis effected between the two nerves thus exposed, the line of anastomosis resting on the posterior belly of the diagastric muscle. It is essential to select a suitable nerve for anastomosis, and the facial nerve being a motor nerve, should

have for its anastomotic complement a motor or mixed nerve, such as the spinal accessory and the hypoglossal. In performing this operation post-operative phenomena should be studied with a view to selecting the nerve most suited for anastomosis.

71. **Heredity in Atrophic Rhinitis.**—That hereditary transmission is a strong factor in the development of atrophic rhinitis is certain, says Somers. A careful examination usually will reveal a history of atrophic rhinitis in several members of the same family and often extending through two or more generations. The deviations from the normal in the osseous framework of the nasal chamber which present evidence of hereditary acquisition consist in an abnormal width of the nasal fossa, with an antero-posterior flattening, which in some cases is seemingly explicable only by the congenital shortness of the nasal fossa. Associated with these are epithelial metaplasia, and often a corresponding facial skull form. Undoubtedly a certain proportion are due to hereditary syphilis.

Medical Age, Detroit.

June 25.

72 Surgery of the Prostate. G. F. Lydston.
73 *Papilloma Giganticum of the Genital Tract. N. E. Aronstam.

73. **Papilloma Giganticum.**—Aronstam discusses this condition which attacks most often the mucous membrane of the male and female genitalia, the perineum, the inner aspect of the thighs, and the ischio-rectal space. The anal region is a very favored location and may be completely encircled by the tumor. The etiology of this affection is obscure; venereal diseases do not seem to have much influence over its production; in fact, few of the patients are the recipients of venereal affections. The pregnant state is a potent predisposing cause, as are also nervous diseases, rectal diseases and inflammations of the birth canal. It gives rise to subjective disturbances, such as smarting, pricking, burning and itching, occasioning great discomfort, bordering on actual suffering. Treatment consists in the extirpation of these growths by the knife. The cautery and local applications may be tried, but, as a rule, prove ineffectual. Concomitant affections must be remedied. The internal treatment deserves attention though not much reliance can be placed on it. The author gives 10 gr. of magnesium sulphate three times a day. He has seen papillomata dwindle away under this treatment, but confesses that he can not explain the rationale of the treatment. Tincture cocci cacti, arsenic, thuja occidentalis, potassium permanganate and ichthyol have been used more or less successfully by various clinicians.

Archives of Otology, New Rochelle, N. Y.

June.

74 Nasal Fibroid. Hilliard Wood.
75 *Report of a Fatal Case of Chronic Suppurative Otitis with Cholesteatoma in the Drum Cavity and Antrum, Cellulitis of Almost the Entire Scalp, Thrombosis of the Transverse Sinus, Cerebral Abscess and Softening of the Cerebellum. John Guttman.
76 Report of a Fatal Case of Multiple Otitic Abscesses in the Temporal Lobe, with Remarks. C. H. R. Jordan.
77 The Ear of the Sperm Whale and Sound Conduction. George Boenninghaus.
78 Operative Opening of the Mastoid Bone in Otitis Media Purulenta, with Extension of the Disease Beneath the Mastoid Process. Ferdinand Leimer.

75. **Chronic Suppurative Otitis with Cholesteatoma.**—Guttman reports a case of septic thrombophlebitis and abscess of the cerebrum and cerebellum, complicated by a cellulitis of the scalp, all of which originated from a chronic suppuration of the middle ear and cholesteatoma of the antrum and attic. The most important and most pathognomonic symptom in these cases is the pyemic fever, produced by the introduction of septic material into the circulation through the small diploic veins in the temporal bone. The next most important symptom was the choked disc in the right and the optic neuritis in the left eye. The extensive cellulitis of the scalp, extending to the eyelids and face, obscured the diagnosis and interfered with the treatment. This cellulitis probably was only an extension of the small edematous swelling which appeared in the posterior part of the mastoid, in the region where the emissary veins emerge. This is called the Griesinger symptom, which, together with the lack of swelling in the anterior part of the mastoid, is a valuable sign of an intracranial complication. The headache was purely a subjective symptom and not at all pathognomonic for any of the cases. The slow pulse which made its appearance toward the end of the disease was a strong indication of the necessity for exploration of the brain. As to the treatment, a conservative expectant plan hardly is justified in cases where suppuration is progressing in such dangerous regions of the body. The patient was anesthetized and the usual incision for a radical operation made; this was extended backward for three inches and upward over the pit of the auricle for about two and a half inches. Several openings were made through the scalp for drainage. Not being able to find any fistula, the bone was chiseled at the antrum, which contained a slight amount of pus and a good deal of soft, brittle, cholesteatomous masses. The posterior wall of the ear canal connecting the two cavities was chiseled away. Cholesteatomous masses were found in the attic and were cleared away. In the posterior wall of the antrum was found a fistula in which was a mass of soft, white pulsating tissue. Owing to the condition of the patient the operation was discontinued. The patient died within a week with symptoms of coma and edema of the lungs.

Virginia Medical Semi-Monthly, Richmond.

June 24.

79 Ununited Fractures. Stuart McGuire.
80 Acute Edema of the Lungs. Wade H. Atkinson.
81 *Cure of Consumption by Feeding the Patient with Subcutaneous Injections of Oil, and Its Digestion by the White Globules of the Blood. Thomas B. Keyes.
82 Prevention of Tuberculosis. Henry W. Cook.
83 Adenoids in Children—A Plea for Early Recognition and Treatment. R. J. Teague.
84 Preliminary Communication on the Surgical Aspects of Typhoid Fever, with Special Reference to Intestinal Hemorrhage. M. E. Gardner.

81.—This article has appeared elsewhere. See THE JOURNAL, xlii, title 123, p. 1596.

Medical Mirror, St. Louis.

May.

85 Psychical Epileptic Equivalence. Marc Ray Hughes.
86 Stricture of the Esophagus Due to Typhoid Ulceration. James E. Thompson.

Woman's Medical Journal, Toledo, Ohio.

May.

87 Dermatitis Exfoliativa, with Report of a Case. Ingeborg Rasmussen.
88 Original Method of Delivering a Generally Contracted Pelvis with Pendulous Abdomen. Alice Conklin.

University of Pennsylvania Medical Bulletin, Philadelphia.

June.

89 Study of Physiology. H. P. Bowditch.
90 Relation of Physiologic Chemistry to the Development of Medical Education. Russell H. Chittenden.
91 The Study of Pathology. George Dock.
92 Growth of the Laboratories. Horatio C. Wood.

Kansas City Medical Record.

June.

93 Symposium on the Treatment of Pneumonia. Calvin Adkins, P. S. Fulkerson, S. S. Glasscock and J. W. Miller.
94 Malnutrition. T. W. Foster.

St. Louis Courier of Medicine.

June.

95 Treatment of Non-malignant Diseases of the Skin by the X-ray. Joseph Grindon.
96 Femoral Hernia. Roland Hill.
97 Taenia in a Child. M. J. Lippe.

Proceedings of the Pathological Society of Philadelphia.

May.

98 Early Lesions of Arteriosclerosis with Special Reference to Alterations in the Elastica. W. M. L. Coplin.
99 Earlier Changes in Arteriosclerosis of the Nervous System. Wm. G. Spiller.
100 Early Changes in Arteriosclerosis of Gastrointestinal Tract. W. T. Longcope.

Western Medical Review, Lincoln, Neb.

June.

101 Epilepsy—Diagnosis and Treatment. F. E. Coulter.
102 Is Epilepsy Increasing? If So, Why? J. M. Aikin.
103 The State's Duty in Providing Institutional Care for Epileptics. S. K. Spalding.
104 Case of Traumatic Cerebral Hemorrhage. Wilson O. Bridges.
105 Malignant Growths of the Vascular Tunic of Eyeball. D. C. Bryant.
106 The Operation for Pterygium. H. B. Lemere.
107 Iodin Treatment of Puerperal Infection. A. B. Somers.

Colorado Medical Journal, Denver.

March.

108 Tuberculosis as an Economic Factor. C. F. Taylor.
109 The Pathology and Bacteriology of Tuberculosis. William Krauss.
110 Relationship Between Human and Animal Tuberculosis. David H. Bergey.
111 Human Immunity (Natural and Acquired) in Tuberculosis. Frank B. Wynn.
112 Susceptibility to Tuberculosis Under Different Conditions. E. L. Shurly.
113 Prophylaxis of Tuberculosis, Including Prevention and Restriction and the Legal Questions Arising Therefrom. Antonio Fanoni.
114 Some Help in the Diagnosis of Early Pulmonary Tuberculosis by Signs and Symptoms Outside the Lungs. James B. Herrick.
115 Classification and Diagnosis of Pulmonary Tuberculosis. Albert Abrams.
116 What Determines the Clinical Form of Pulmonary Tuberculosis? Wm. N. Beggs.
117 Medical Treatment of Tuberculosis. A. Zederbaum.
118 Specific Medication in Pulmonary Tuberculosis. F. M. Pottenger.
119 Advantage of High Altitudes in Tuberculosis. Charles Denison.
120 Denver and Pulmonary Tuberculosis. Wm. N. Beggs.
121 Climate of Southern California with Reference to Pulmonary Tuberculosis. George E. Abbott.
122 The Arid Climates. J. Frank McConnell.
123 Effect of the Climate of the Atlantic Coast on Pulmonary Tuberculosis. Guy Hinsdale.
124 Favorable and Unfavorable Climates for Tuberculosis. Henry B. Dunham.
125 Residence Treatment in Unfavorable Climates. Joseph Eichberg.
126 Sanitarium Treatment of Pulmonary Tuberculosis, Including Hygienic and Dietetic Treatment. Alfred Meyer.
127 Tuberculosis of the Larynx. F. E. Waxham.
128 Cerebral Tuberculosis. David L. Wolfstein.
129 The Cardiac Complications of Pulmonary Tuberculosis. Joseph M. Patton.
130 The Digestive System in Pulmonary Tuberculosis. James Rae Arneill.
131 Aural Tuberculosis. Melville Black.
132 Genito-urinary Complications of Pulmonary Tuberculosis. Donald Kennedy.
133 Preliminary Observation on the Effect of Air on Tuberculous Inflammation of the Urinary Tract. Bransford Lewis.
134 Pulmonary Tuberculosis as a Primary Factor in the Causation of Surgical Tuberculosis. Hamilton Fish.
135 Psychology of the Consumptive. John Punton.
136 A Case of One Lung. J. A. Wilder.

Medical Fortnightly, St. Louis.

June 25.

137 Testimonies of Ancient Sepulchres on the Question of Paleolithic Man in the Western Hemisphere—A Contribution to Paleo-American Medicine. Albert S. Ashmead.
138 Amputation of Both Thighs in Cases of Embolic Gangrene. Richard Muhsam.

Annals of Gynecology and Pediatry, Boston.

June.

139 Bossi's Dilator in Obstetric Practice. A. Parmenide Ricci.
140 Clinical Gynecology at the Tufts College Medical School, Boston. George W. Kaan.

Journal of the Association of Military Surgeons, Carlisle, Pa.

July.

141 Prophylaxis of Venereal Diseases. Valery Havard.
142 Dislocation of First Metatarsal Bone Downwards and Outwards Into Plantar Arch Direct Reduction Through Opening Made by Incision. Recovery. Henry W. Sawtelle.
143 Needs and Equipment of Regimental Hospitals of the National Guard for Duty in the Field, Practice Marches, Strike Duty and Guard Duty in the Armory. Vertner Kenerson.
144 "The Degree of Doctor of Public Health." Paul Fitzsimons.
145 United States Army General Hospital at the Presidio of San Francisco, Cal., 1901-1902. Alfred C. Girard.
146 Apparatus for Transferring Patients from Bed to Bath. George G. Craig.
147 Note on Filipino Midwifery. Melville A. Hays.

Journal of Comparative Neurology and Psychology, Granville, Ohio.

June.

148 Enumeration of the Medullated Nerve Fibers in the Ventral Roots of the Spinal Nerves of Man. Charles E. Ingbert.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 25.

1 1.—I Em-Hotep, the Egyptian God of Medicine; Egyptian Views as to the Circulation. 2. Rest in Incipient Valvular Disease. Richard Caton.
2 The Irish Poor law Medical Service. Joseph O'Carroll.
3 The Strike in the Irish Poor-law Medical Service. Richard F. Tobin.
4 *Congenital Hypertrophic Stenosis of the Pylorus: Pyloroplasty; Result. John McCaw and Robert Campbell.
5 *Acute Dermatitis Produced by Satin-wood Irritation. H. E. Jones.

4. **Congenital Hypertrophic Stenosis of Pylorus; Pyloroplasty.**—The authors call attention to the fact that failure on the part of an infant to make satisfactory progress after the first few weeks of life may be due not to the nutriment, but to a congenital stenosis of the pylorus. Vomiting is one of the earliest, most prominent and persistent symptoms of this condition, and when the infant loses ground steadily from day to day in spite of a careful modification of the diet, a careful examination of the stomach should be made. The vomiting is characterized at first by its frequency and the small quantity of food vomited; later, when there exists some dilatation of the stomach, larger quantities are brought up and the intervals between the vomitings are increased until the child takes and retains several feedings and ejects a large portion of them at one time. There is no nausea or collapse, and the fluid is never seen to contain bile, a further evidence of the condition of the pylorus. With the infant stripped and placed in a good light the outline of the dilated stomach can be defined clearly, in some cases extending below the umbilicus. Visible peristalsis of the stomach generally is well marked. The thickened pylorus can be palpated as a hard nodule about the size of a hazelnut, but more elongated. This nodule consists of hypertrophy of the circular muscle fibers, which undoubtedly is the prime factor in the causation of this affection. In the course of time the obstruction leads to hypertrophy of the muscular and mucous coats of the stomach, and the longer the obstruction remains unrelieved the greater this hypertrophy becomes. The hypertrophied condition of the mucous membrane becomes a most important factor, inasmuch as it effectually blocks the already contracted pylorus, and whatever form of operation is adopted, it should be done with the object of relieving the obstruction and dealing with the mucous membrane in such a way as to prevent its acting like a valve at the already contracted pyloric orifice. In the case reported, on which a pyloroplasty was performed, this redundancy of the mucous membrane proved to be the cause of death, because when fluids entered the stomach they caused the mucous folds to act like aortic valves when the column of blood falls back in the aorta. A second operation for the purpose of dealing with these mucous folds was refused.

5. **Satin-Wood Dermatitis.**—Jones reports a case of acute inflammation of the face, neck, hands and wrists, resembling erysipelas, due to satin-wood irritation. There was no pain and no sickness. Whenever the man ceased working for a time the inflammation subsided, but as soon as he commenced work again the inflammation reappeared in all the exposed parts. The inflamed area became moist, and this was followed by desquamation. Investigation revealed the fact that the cause was some irritant in the dust arising from East Indian satin-wood, with which the man was working at the time. The first attack is rather slow in its onset, but relapses come on with great rapidity. As regards treatment, it was suggested that the man remain off duty until the epidermis was fairly strong, and that then vaselin or some oily substance should be smeared over hands and face, and allowed to remain there while the men were at work in the shop.

The Lancet, London.

June 25.

6 Same as No. 1 above.
7 Deaths in Childbed; a Preventable Mortality. W. Williams.
8 *Diagnosis of Tumors in the Upper Rectum and Sigmoid Flexure by Means of the Electric Sigmoidoscope. P. Lockhart Mummery.
9 *Strangulation of the Fully Descended Testicle from Torsion of a Pedunculated Mesorchium. G. H. Edington.
10 *Prophylactic Use of Morphin in Cases of Severe Cerebral Injury. J. A. MacDougall.
11 Notes on Three Cases of Intestinal Obstruction. G. R. Anderson.
12 *Case of Perforative Gastric Ulcer with Appendicitis; Operation; Recovery. V. Warren Low.
13 Enumeration of Leucocytes. A. E. Jones.
14 Traumatic Gangrene of the Scrotum with Almost Entire Separation; Recovery; Plastic Operation for Formation of New Scrotum. A. Grainger Bisset.
15 Mania from Traumatic Meningitis; Trephining; Evacuation of Serous Effusion; Complete Recovery. Charles Brook.

8. **Diagnosis of Tumors in the Upper Rectum.**—The accurate diagnosis of tumors in the upper part of the rectum and the

sigmoid flexure, says Mummery, has hitherto been difficult and unsatisfactory. This is principally because it has not been possible to obtain direct evidence of their presence, the diagnosis being made almost entirely from the symptoms, aided at times by bimanual examination with the patient anesthetized. With the aid of Strauss' sigmoidoscope it is possible to obtain a view of the bowel as high as the top of the sigmoid flexure, and occasionally into the descending colon. By removing the window at the back of the tube, and passing suitable instruments down it, applications may be made to the part, or pieces removed for microscopic examination. A certain amount of practice is needed before the instrument can be used satisfactorily. Its passage is not in the least painful and but slightly uncomfortable; it is not necessary to administer an anesthetic.

9. **Strangulation of Descended Testicle from Torsion.**—Edington reports a case in a baby, aged seven months, of strangulation of the fully descended testicle from torsion of a pedunculated mesorchium. The points of interest in the case were the extreme youth of the patient, the fact that the testis was fully descended, the absence of any history of trauma, and of constitutional signs, the fact that the local signs were not such as to permit of a correct diagnosis, and the presence of "reversion" with pedunculated mesorchium. On examination of the specimen after removal it was found that the testicle was connected with the posterior part of the tunica vaginalis by a narrow pedicle instead of, as is usual, by an attachment extending almost the complete length of the epididymis. The pedicle was at the upper pole of the organ and lay to the inner side of the gland. It had undergone a complete twist from within outward (from right to left) so that the body of the testis lay in its proper situation anterior to the epididymis. The cord presented no apparent abnormality. Microscopic examination showed the testis to be in a state of necrosis; the hilum of the testis was congested, edematous, and infiltrated with blood. The epididymis was more closely incorporated with the testis than is normal, owing to the formation of adhesions.

10. **Prophylactic Use of Morphin in Severe Cerebral Injury.**—MacDougall reports three cases of severe cerebral injury in which the use of morphin was followed by most excellent results. He believes that its beneficent action is brought about largely through its effects on the vascular and nervous systems, inducing a condition of perfect rest. If after severe brain injury the patient is kept under the influence of morphin, convalescence is more rapid and more steady, grave cerebral symptoms are wanting, and the continuous rise in temperature, which usually marks cerebral laceration and hemorrhage, has been notably absent.

12. **Perforated Gastric Ulcer with Appendicitis.**—A case of this kind is reported by Low. The symptoms pointed toward a general peritonitis due to rupture of the appendix. The abdomen was opened and the appendix removed. It was four inches in length, rigid, with thickened walls, and its lumen contained two concretions. Though obviously in a state of acute inflammation, there was no perforation or area of necrosis and could not, therefore, be considered the cause of the general peritoneal infection. Further search revealed a perforation in the middle of an indurated area of the size of a five-shilling piece situated beneath the left lobe of the liver on the anterior aspect of the small curvature of the stomach, close to the cardiac end. The points of interest in the case were the coincidence of an ordinary attack of appendicitis with a gastric ulcer which perforated at that particular time. The patient laid most stress on the pain in the lower abdomen on the right side. Although there had been some symptoms of gastric trouble for a year, the patient never had any hematemesis or even vomiting.

Intercolonial Medical Journal of Australasia, Melbourne

May 20.

16 "Hip Disease." R. Hamilton Russell.
17 Decline of the Birth Rate in New South Wales. John B. Trivett.
18 Second Series of Cases of Optic Neuritis. James W. Barrett and W. F. Orr.
19 Case of Lupus Vulgaris Treated with X-rays and Ultraviolet rays. F. J. Clendinnen.

L'Obstétrique, Paris.

Last indexed XLI, page 1119.

20 (VIII, No. 6.) Cas de rétention pendant 4 ans d'un fœtus extra-utérin près du terme. Demelin and Bouchacourt.
21 *Thrush Without Mycelium. O. Macé.—Le muguet à forme levure chez le nouveau-né.
22 Relations Between Length and Weight of Fetus at Term. Guérin-Valmale.—Relations entre la longueur et le poids du fetus à la fin de la grossesse.
23 (IX, No. 1.) Le Professeur Fochier, 1845-1903. Obituary.
24 A Milk Charity in a French Town. E. Ausset.—La goutte de lait de Saint Pol-sur-Mer.
25 *Des indications de l'interruption de la grossesse (of pregnancy). O. Macé.
26 (No. 2.) *Documents pour servir à l'étude de la cryoscopie des urines et du lait (milk). O. Macé.
27 (No. 3.) Weight Curve of Nurslings During Second Year. Perrey and Planchon.—Etablissement de la courbe du poids des nourrissons pendant la seconde année.
28 *Burns of the Breast and Lactation. Piauchu and Pellanda.—Brulures du sein et allaitement.
29 De l'évolution de la puerperalité dans l'utérus didelphe. Guérin-Valmale.

21. **Thrush Without Mycelium Formation.**—Macé found this form of thrush in otherwise healthy children, with nothing macroscopically abnormal in the mouth. The growth apparently waits for an acid reaction on the part of the saliva before it proliferates. The presence of pus cocci seems to favor this acidity and consequent development of the mycelium, as does also the presence of the colon bacillus or the bacillus subtilis.

25. **Indications for Interruption of Pregnancy.**—The same writer establishes an average standard for the blood findings in pregnancy, and then shows that variations from this standard may be an indication for the interruption of the pregnancy. The average of 3 healthy women, in at least the eighth month, was hemoglobin, 8 per cent.; red corpuscles, 4,493,000; whites, 9,640; clear mononuclears, 15.1 per cent.; opaque, 1.12 per cent.; transitional forms, 2.2 per cent.; ordinary polynuclears, 77.5 per cent., and eosinophiles, 1.06 per cent. Variations from this standard he has found are of serious import for the fetus as well as the mother. Besides pernicious anemia, the anemia from recurring hemorrhages entails serious injury to the blood. Pronounced polynucleosis indicates commencing infection, frequently starting in the uterus and causing the expulsion of the fetus sooner or later. It is not necessary to wait for this, if the condition is recognized early by the blood findings. Under the influence of slight but recurring hemorrhages reds are swept into the circulation, immature and deformed.

26. **Cryoscopy of Milk and Urine.**—Macé devotes ten pages to tables of the findings in regard to the freezing-point of the milk and urine and elimination of chlorids in 14 women presenting evidences of puerperal infection. The freezing-point of the milk and the elimination of chlorids increase as convalescence progresses. The freezing-point of the urine varies, but is generally low, in some instances reaching minus 2.4 C., while the elimination of chlorids is much above normal (6 to 8 gm. per 1,000 on an ordinary diet and 3 to 4 gm. on milk alone).

28. **Burns of Breast and Lactation.**—In the 2 cases described the breast had been the site of extensive burns in previous years. Lactation, however, proceeded normally in one patient, although the cicatricial areola was hard and inflexible, requiring softening and massage before the babe could nurse properly. The other patient did not nurse her infant, and as the milk was secreted the breast became very painful. Under appropriate measures lactation was suppressed as under normal conditions, without inflammation or gangrene of the burned breast.

Revue de Chirurgie, Paris.

Last indexed XLII, page 1522.

30 (XXIV, No. 6.) *La pharyngotomie retro thyroidienne. E. Quénu and P. Sebileau.
31 *Vaginalite séreuse chronique. De Vlaccos (Mitylene, Greece).
32 *Sur les myostéomes traumatiques, particulièrement sur leur pathogénie et leur traitement opératoire. L. Cahier. (Commenced in No. 5.)

30. **Retrothyroid Pharyngotomy.**—The technic of the lateral-vertical opening into the pharynx described was worked out on

the cadaver and successfully applied in 2 clinical cases for the extraction of foreign bodies. Its ease, simplicity and the minimal traumatism render it the intervention of election for extraction of a foreign body in the pharynx or esophagus. The incision extends in front of the sterno-cleido-mastoid muscle for about 8 cm. The external jugular vein is tied and severed, the posterior margin of the thyroid ala is drawn forward, which allows easy access to the lower third of the wall of the pharynx, below the lingual artery and the main thyro-linguo-facial vein.

31. Chronic **Vaginalitis.**—Vlaccos relates the history of 2 cases which establish the possibility of a chronic serous vaginalitis existing independently of any lesion of the testicles. Both patients were tuberculous and both recovered after resection of the vaginalis. One succumbed later to tuberculous meningitis, the other is still in good health. In less severe cases he prefers to exteriorize the vaginalis by a long incision and exstrophy of the scrotum, with energetic friction of the serous surface thus fully exposed, concluding by touching the surface with a 20 per cent. solution of zinc chlorid, and suture without drainage. This is similar to Bloch's technic, minus his tamponing and tardy suture. When the vaginalis is altered, thickened, and restitution is improbable, it should be entirely removed. The results of this technic have been perfect to date.

32. Traumatic **Myosteoma.**—Cahier tabulates 133 cases, with details of one personally observed. He attributes their development to a process of ossifying myositis. In certain cases with adhesions—in reality merely sensitive, indurated hematomata—massage may induce the complete retrogression of the tumor, but in true myosteomata—due to an interstitial myositis—it is doubtful whether massage will do much good. It may even be dangerous in certain cases, especially those involving the brachialis, in subjects under 25, with concomitant traumatism of the elbow. It is almost certain to entail ankylosis of the joint. In some cases the tumor was exaggerated by the massage. Massage and mobilization are liable to prove dangerous also when used after extirpation of the tumor. He does not believe in extirpation of a traumatic myosteoma as long as it does not make trouble. He waits until it is "ripe." If operation is attempted while the tumor still contains cartilage and the process of ossification is still incomplete, there is danger that the declining muscular inflammation may be aroused into renewed activity, and also that the morbid tissue—some of it being still undefined—may escape the knife and perpetuate the lesion. When the myosteoma is "ripe" it casts a definite, nearly uniform shadow in radioscopy, showing its isolation from the bone or its pedunculated attachment as the case may be. The shadow should correspond with the size of the tumor felt by palpation. If the shadow cast at a month's interval is the same size as the first time, the tumor is evidently stationary. He advises close, extra-capsular resection, with morcellation of the tumor, if necessary. A certain hyperostosis of the adjacent bone may safely be left undisturbed, as it generally is absorbed like an ordinary callus. Hemostasis should be as perfect as possible to prevent the development of a hematoma. If drainage is necessary it should be suppressed at the earliest possible moment.

Berliner klinische Wochenschrift.

33 (XLI, No. 24.) *Ueber Stomatitis gonorrhoica beim Erwachsenen (in adults). Jürgens (Berlin).
34 Gaswechseluntersuchungen bei Morbus Basedowii und Akromegalie (gas metabolism). H. Salomon (von Noorden's clinic, Frankfurt).
35 *Action of Thiosinamin in Affections of Digestive Tract. R. Baumstark (Ewald's clinic, Berlin).—Ueber Thiosinaminwirkung bei Erkrankungen der Verdauungswege.
36 Die specifische Therapie und die Vaccination der Tuberculose. P. Maragliano. (Commenced in No. 23.) Phipps' lecture at Philadelphia.
37 Report of Third German Congress for Orthopedic Surgery, Berlin, April 5, 1904. (Commenced in No. 23.)
38 Report of Thirteenth German Congress of Otology, Berlin, May 20, 1904.

33. **Gonorrheal Stomatitis in Adults.**—Jürgens describes a case in which a young man with sound teeth developed a diffuse inflammation of the gums and the mucosa of the cheeks, with a dirty gray, easily wiped off coating. The gums bled easily, but there was no membrane formation nor ulceration. The diagnosis of gonorrheal stomatitis was corroborated by the history of recent infection. Bacteriologic examination revealed a coccus resembling the gonococcus in every respect save that it grew luxuriously on ordinary agar. It is possible that the pseudo-gonococci may be incriminated in the pathogenesis of certain gonorrheal affections, and, in any event, these affections must be regarded from a broader standpoint than hitherto, considering the clinical-pathologic findings and individual conditions, besides the strictly bacteriologic testimony.

35. **Thiosinamin in Affections of Digestive Tract.**—The affections referred to by Baumstark are those due to the formation of adhesions and cicatricial tissue in the digestive tract. He used a 20 per cent. glycerin-water solution of thiosinamin, injecting 1 c.c. at a time after the first two times. Not the slightest effect was apparent in 5 cases of malignant tumors, and the results were scarcely better in 4 of benign stenosis of the pylorus. In 2 cases of pericholecystitis and perigastritis marked improvement was observed as the thiosinamin was injected as an adjuvant to other measures. To what extent the thiosinamin was responsible for the improvement is still an open question, as the symptoms recurred so soon as the other measures were suspended. On the whole, therefore, the results of the thiosinamin treatment may be regarded as negative.

Centralblatt f. Chirurgie, Leipsic.

Last indexed XLII, page 1666.

39 (XXXI, No. 21.) *Method of Suturing Which Avoids Buried Sutures in the Bassini Operation. R. Porges.—Eine Nahtmethode zur Vermeidung von versenkten Nähten bei der Bassini'schen Operation.
40 *Radical Operation for Malignant Growths in Bladder. A. A. Berg (New York.)—Beitrag zur radikalen Operation bösartiger Neubildungen der Blase.

39. **Means of Removing Buried Sutures.**—Porges' illustrations show his technic of suturing deep tissues with complete removal later of the thread. It consists essentially in taking a figure 8 suture through the aponeurosis and skin with stout silk. A piece of finer silk thread is tied through the suture loop, the ends kept separate from the stout silk. The ends of the latter are then twisted in the direction of the hands of a clock until the close twisting approximates the tissues beneath as closely as if the ends had been tied. The twisted ends are held firm in a small clamp, which also holds one end of the fine silk, the other end having been cut off close to the knot through the suture loop, just below where the twisting commences. Each buried suture is twisted and held firm in this way by a separate clamp, interposed gauze protecting the skin from contact with the row of clamps, two on each side of the wound. When healing is complete, generally in about ten days, the clamp is opened, the fine silk dropped and the twisted ends of the stout silk are untwisted until the loop is completely opened. One of the ends of the stout silk is then cut off close to the skin, and the rest of the suture is then easily pulled out by traction on the other end and on the fine silk tied to it below, both being readily pulled out together.

40. **Radical Removal of Malignant Growths in Bladder.**—Berg reports 2 cases operated on by the intraperitoneal technic he describes. It is designed for removal of malignant lesions in the rear wall and fundus of the bladder. Both of his patients are in good health now, more than a year since the intervention.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed XLII, page 1192.

41 (XXVIII, No. 13.) *Vaginal Cesarean Section. A. Dührssen (Berlin).—Fall von vaginalem Kaiserschnitt bei Placenta praevia nebst Bemerkungen zur Technik der Operation und ihre Stellung zu anderen Dilatationsmethoden.
42 *Nachtragliches über Valerius Cordus und den Aethyl-Ether. K. Rinz.
43 (No. 14.) *Success of the Campaign Against Uterine Cancer in East Prussia. G. Winter (Königsberg).—Der Erfolg der "Bekämpfung des Uteruskrebses" in Ostpreussen.
44 Ueber intra-uterine Skelettierung. O. Polano (Würzburg).
45 Change of Face Into Occipital Presentation by External Manipulations. A. Ostreil (Prague).—Umwandlung von Gesichtslage zu Hinterhauptslage durch aussere Handgriffe.
46 *Internal Secretion of Uterus Mucosa and Formation of Metrotoxin. A. Schucking.—Ueber innere Sekretion der Uterusschleimhaut und über Bildung von Metrotoxin.

41. **Vaginal Cesarean Section in Case of Placenta Previa.**—Dührssen's method of vaginal cesarean section was successfully applied in the case he describes, and he states that this technic has now been used in 100 cases. He commends it as very valuable for certain cases, holding that we no longer have any right to allow the fetus to die because of some obstacle to delivery in the soft parts, or to practice perforation when these obstacles prove dangerous for the mother. In the hands of a modern gynecologist, he adds, the conservative or the radical vaginal cesarean section is a typical and certain mode of accomplishing delivery free from danger. He answers the criticisms of the method in detail.

42. **The Discoverer of Ether.**—Binz claims for Valerius Cordus, privat docent at Wittenberg in the earlier part of the sixteenth century, the honor of the discovery of ether. He called it "oleum vitrioli dulce," but knew nothing of its anesthetic properties, which were not discovered until 300 years later, when Jackson and Morton published their experiences. Cordus is known in history as the author of the first official pharmacopeia. Binz closes this historical sketch of ether with quotations from physicians, poets and divines protesting against the banishment of pain by the new agent. He cites them as typical examples of the opposition encountered by every innovation in the world of medicine.

43. **Campaign Against Uterine Cancer in East Prussia.**—In 1902 Winter organized a systematic campaign against uterine cancer throughout Eastern Prussia. He sent a pamphlet on the subject to all the physicians in the region and a circular to the midwives, following this with a "Warning to Women," published in all the leading newspapers. During the following year he sent question blanks to every gynecologist asking for information in regard to the cancer cases operated on during 1903. Eighty-four of these question blanks have been filled out and returned, and the results show great improvement, as estimated by the operability of the cancers when first seen. The proportion of operable cases has risen from 71 to 82 per cent. in the clinics and from 52 to 65 per cent. in specialist circles. One result of his efforts is that family physicians now examine women for cancer at the slightest suspicious symptom. During the four previous years he found that 14.2 per cent. had neglected to examine. In 1903 only 5 (11 per cent.) of the 45 family physicians consulted failed to examine, and one of these was a homeopath; one sent the patient at once to a specialist without examining her himself; one was deceived by the patient, who suppressed the suspicious symptoms in her report, and the fifth physician made the examination at the second visit. Eight of the 84 women consulted a midwife and only one failed to direct them to a physician or specialist and continued to treat the woman herself. During the previous years 54 per cent. of the midwives had followed this pernicious practice. Not one of the 84 women had applied to a charlatan, and the percentage of those who applied to a physician early is in marked contrast to the percentages of the previous years. A further significant gain is shown by the prompt readiness displayed by the women in regard to the operation, only 5 per cent. waiting for even a month, and only a single patient going beyond this to the fourth month. In a number of cases the symptoms had been noted for some time, but on reading the warning in the papers the patient or family was roused at once to consult a physician. Ninety per cent. were operated on within two weeks of the diagnosis. Winter's monograph on the "Combating of Cancer of the Uterus," is published by Ferd. Enke, Stuttgart, 1904.

46. **Internal Secretion of Uterus.**—Schücking believes that he has established the existence of an internal secretion in the gravid uterus, a metrotoxin, which has some influence on ovulation. His experiments were made on rabbits which were injected with an emulsion of the tissue elements of gravid uteri. None of the rabbits conceived, although males cohabited freely with them. The emulsion seemed to have an inhibiting influence on the ovaries, and it also apparently induced hyperemia in the uterus. He supplemented these researches by injecting this emulsion of human or rabbit uteri into guinea-pigs, and it displayed marked cytolytic property in the cornua of the uterus. The serum of the animals thus treated acquired considerable hemolytic power for human red corpuscles, confirming its nature as a specific cytotoxin. He suggests that a serum of this kind might be used to advantage in inoperable cancers of the uterus and for post-operative treatment. The fact of an internal secretion may explain why women recover more rapidly after genital hemorrhages than from losses of blood otherwise. It may further afford the key to the extraordinary disturbance in the general health that is liable to follow even a slight interference with the circulation in a misplaced uterus. It further confirms the assumption in regard to the independence of the uterus from the ovaries.

Corr.-Blatt f. Schweizer Aerzte, Basle.

Last indexed XLII, page 1056.

47 (XXIV, No. 7.) Giant Ovarian Tumor. P. Pfaehler.—Ein Riesen-Ovarialtumor.
48 Experiences of Great Value of Red Light in Treatment of Smallpox. E. Rahm.—Ueber rotes Licht bei Pockenbehandlung.
49 (No. 8.) Ueber Pylorus-Stenose im Säuglingsalter (in infancy). Bernheim-Karrer.
50 Tendon Plastics. O. Lanz (Amsterdam).—Sehnen-Plastik bei habitueller Luxation der Patella.
51 (No. 9.) Fall von spindelförmigen oder flaschenförmigen Divertikel des Esophagus. E. Fricker.
52 (No. 10.) *Ueber Refractura patellæ. Lauper (Berne).
53 Justification and Indications for Prevention of Conception. A. Goenner.—Die Berechtigung und die Indikationen der Konzeptionsverhinderung. (Commenced in No. 8.)
54 Ibid. A. Kraft (Zurich).
55 (No. 11.) *Considerations in Regard to a Case of Bullet-Wound of the Brain. O. Veraguth (Zurich). Ueber eine Hirnschussverletzung.
56 Case of Simulated Perityphlitis. H. Nägeli (Zurich).—Fall von vorgetäuschter P.

52. **Recurring Fracture of the Patella.**—Lauper remarks that fractures of the patella recur incomparably more frequently than of any other bone. Study of them is particularly instructive, as it suggests points that may be useful in treating primary fractures. The maximum interval between the fractures in the cases on record is six months after suture, and four years after massage. True refracture occurs only after conservative treatment, and can scarcely receive adequate treatment with such measures. When the refracture occurs after suture it is not a true fracture, but merely the separating of the imperfectly healed, primary fracture in consequence of too early use. This can be avoided by longer fixation in extension and more careful use, wearing a supporting apparatus for a year. The patella is a sesamoid bone and should be classed apart from other bones. In a true refracture, after conservative treatment, the fracture is usually in the upper, larger part. It occurs much more frequently after massage treatment than when the bone has been sutured. By direct suture of the patella in the primary fracture, the necessity for secondary operations later is obviated.

55. **Bullet Wound of Brain Without Loss of Consciousness.**—Veraguth's case presents the medicolegal feature that the consciousness was unimpaired for a time after a would-be suicide had fired a large bullet into his forehead, destroying 2.5 per cent. of the cerebrum and opening the sinus longitudinalis, causing extensive venous hemorrhage. There was no special anemia of the cortex directly after the injury, which accounts for the retention of consciousness, but the left side became paralyzed at once. The loaded pistol was still in his right hand, of which he had full control, and he could easily have shot others or himself in the heart, for instance, which might have proved a forensic puzzle in view of the destruction of about 30 c.c. of the right hemisphere which had preceded.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

57 (XXX, No. 24.) *Isolierte tuberkulöse Pericarditis. G. Scagliosi (Catania).
58 Durchbruch eines tuberkulösen Lymph-Drüsen-Abscesses in die Trachea. V. Gaudiani (Rome).
59 *Disturbance of Stimulus Conduction in Myocardium. J. Mackenzie (Burnley, England).—Fall von Störung der Reizleitung im Herzmuskel.
60 *New Property of Tubercle and Other Acid-Fast Bacilli. S. Piatkowski (Lodz, Poland).—Ueber eine neue Eigenschaft der Tuberkel- und anderer säurefesten Bazillen.
61 *Beobachtungen über epidemischen katarrhalischen Icterus. L. Nicolaysen (Christiania).
62 Ueber eine klinische Methode zur quantitativen Bestimmung des Gallenfarbstoffes im Harne (test for bile pigments in urine). J. Bouma (Utrecht).

63 *Ossifying Processes in the Veins. C. Beck (New York).—Ueber Verknocherungsvorgänge in den Venen im Lichte des Röntgen-Verfahrens.
64 Zur Behandlung der Zwerchfellverletzungen (injuries of diaphragm). D. Rona (Baja, Hungary).
65 Ueber Styptol in der Gynäkologie. E. Toff (Braila, Roumania).
66 2 seltener Fälle von kongenitalen Missbildungen (malformations). E. Pfister (Cairo).
67 (No. 25.) *Die Hilfe für Giftarbeiter (workers in poisons). L. Lewin (Berlin).
68 *Zur Therapie und Prophylaxe chronischer Malaria. R. Bassenge (Berlin).
69 *Action of Röntgen- and Radium Rays. W. Scholtz (Königsberg).—Wirkung der Röntgen- und Radiumstrahlen.
70 Ueber Heilungsaussichte und Behandlung der puerperalen Pyämie. E. Opitz.
71 *Ersatz beider Ureteren (substitute for both ureters). J. Israel.
72 *Ueber Spätrezidive des Karzinoms (tardy recurrence). Jordan (Heidelberg).
73 New Model for Treatment of Nose and Ear Affections with Superheated Air. E. Berthold (Königsberg).—Ein neues Modell zur Heissluftbehandlung von Ohren- und Nasenkranken.
74 Condensed Buttermilk for Infant Feeding. H. Koeppe (Giessen).—Erfahrungen mit einer Buttermilchkonserve als Säuglingsnahrung.
75 Zur Kenntnis der Wirkung der Essentia antimellini composita bei Diabetes mellitus. I. B. Studzinski (Kiev). (Commenced in No. 24.)
76 Self illuminating Tongue Spatula. Axmann (Erfurt).—Selbstleuchtender Zungenspatel.
77 Berlin Regulations in Regard to the Mentally Diseased. M. Brasch.—Die "Aufnahmebestimmungen" fur Geisteskranken in Berlin.

57. **Isolated Tuberculous Pericarditis.**—Scagliosi states that only a single case of primary tuberculosis of the pericardium has been encountered in 1,077 necropsies at Palermo. The subject was a woman of 60 who had succumbed to a pyelonephritis. There was only a small amount of effusion.

59. **Disturbance of Stimulus Conduction in Heart Muscle.**—Mackenzie gives the tracings of a case of mitral insufficiency in which the administration of digitalis entailed a functional disturbance identical with that described by Wenckebach as due to disturbance in the conductibility of the heart muscle.

60. **New Property of Acid-Fast Bacilli.**—Piatkowski announces that the group of acid-fast bacilli is less sensitive to the action of a dilute solution of formalin than other kinds of bacilli. The formalin has no effect on the morphology or staining properties of the acid-fast bacilli and has merely a transient inhibiting action on their growth. They regain their normal biologic properties in succeeding inoculations. The acid-fast bacilli can thus be readily differentiated by means of formalin. A small amount of the material is mixed with 10 c.c. of water or bouillon, and two or three drops of formalin are added. The test glass is then stoppered and well shaken. After half an hour another test glass with ordinary or glycerin agar is inoculated, and this is repeated several times at fifteen-minute intervals. The pure culture of the acid-fast bacillus under examination will be found in some one of the glasses. This formalin technic can also be used to differentiate the more resistant bacteria in other infections.

61. **Epidemic Catarrhal Icterus.**—Nicolaysen describes an epidemic of 123 cases of this affection, the majority in children. Its prevalence during the winter months and subsidence at the approach of hot weather is in marked contrast to what is observed in acute gastroenteritis. He is convinced that the icterus in question must be regarded as a specific gastrointestinal catarrhal affection which occurs with or without icterus and is generally transmitted from person to person. A similar epidemic has been reported since from another point in Norway, 40 cases in all, spreading like measles or scarlet fever.

63. **Ossifying Processes in Veins.**—Beck expatiates on the light thrown on these processes by the Roentgen rays. He gives radiograms of the saphena of a woman of 56 who had suffered for thirty years from varices. After extirpation of the veins Roentgen examination revealed pronounced ossification extending through certain portions. These findings demonstrate the uselessness of elastic stockings and bandages, of ignipuncture, injections and of massage in such cases. Massage might even do direct injury, as the tissues are liable to be injured by the projecting angles of the bone formation.

67. **Help for Workers in Poisonous Substances.**—Lewin pleads for better protection of working people in the trades which use poisonous substances. He proclaims that the state can do much more in this line than it has done. Children in the primary and grammar schools should be instructed in the dangers of lead and other industrial poisoning. Teachers could easily be trained to impart such instruction. Popularly written pamphlets should be distributed to every family in which any member is engaged in these dangerous trades, especially those in which the nitro-bodies are used, and popular lectures should be given in industrial centers to instruct the workmen and convince them of the importance and value of protective measures which they too often disregard as irksome constraints. The state should also shorten the working day to four or less hours a day for these dangerous trades, and exclude women and children from them, and strictly forbid home piecework. The earnest co-operation of legislators and expert toxicologists is necessary. Light thus thrown into the darkness of poison-handling workshops will be reflected in the enhanced vitality and vigor of the working classes and the silent gratitude of hundreds of thousands of working people thus rescued from invalidism and pauperism.

68. **Treatment of Chronic Malaria.**—Bassenge shows by 2 striking examples that hydrotherapeutic or other procedures causing vigorous stimulation are liable to be followed by the appearance of the malaria parasites in the peripheral blood where before it was impossible to detect them. In neither of the cases reported was the malaria averted nor recurrences prevented by quinin taken regularly and copiously as a prophylactic during the entire stay in the malarial region. The malaria and the quinin together had induced chronic invalidism and, in one patient, a predisposition to blackwater fever.

69. **Action of Roentgen and Radium Rays.**—Scholtz reports successful application of the radium rays in several cases of lupus of the palate and gums. In another case an inoperable cancer of the skin around the orbit has completely retrogressed under the radium rays. He has experimentally tested the Roentgen rays on the testes of guinea-pigs—which are normally in the abdomen—and has established that the rays can pass through the skin without appreciable reaction and exert an intense action on an internal organ. Necro- and azoospermia were observed in the testes twenty days after application of the radium rays for a hundred minutes.

71. **Substitute for the Ureters.**—Israel has had occasion to treat 5 young men on account of hydronephrosis which had evidently existed for years without causing symptoms. Under the influence of fresh infection of the old hydronephrosis, the patients, who had previously been supposedly in the best of health, suddenly developed fever, pains and colics. Gonorrheal infection was responsible in 4 and appendicitis in the other case. In still another case these symptoms developed suddenly in a lad of 13, previously robust. Examination showed a congenital low malposition of both kidneys, with resulting severe hydronephrosis. All attempts to restore conditions to normal failed. It was found impossible to push the kidneys up or to secure their evacuation through the ureters. Israel consequently made an artificial passageway between the bladder and kidneys, a tube forking to each kidney and emptying into the bladder, the tube inserted in a suprapubic oblique fistular passage with a valve opening outward. This contrivance has been working with perfect satisfaction since May, 1902. The tubes are changed twice a week, when the renal pelvis and bladder are rinsed out with a boric acid solution. It is possible that in time natural conditions may be restored, as the kidneys continue to shrink in size after the long distension. In one of the other cases the kidney was removed on account of gonorrheal infection of an old hydronephrosis—the patient a youth of 17. The organ was removed within three weeks after the first symptoms, and yet it was found reduced to a sac as thin as paper, with scarcely a trace of kidney substance left, filled with 1,400 c.c. of purulent fluid.

72. **Tardy Recurrences of Cancer.**—In one of Jordan's 2 cases a carcinoma of the tongue recurred at the same spot after an interval of nineteen years.

Münchener medicinische Wochenschrift.

78 (LI, No. 20.) *Intestinal Manifestations in Achylia Gastrica. von Tabora (Riegel's clinic, Giessen).—Die Darmerscheinungen bei Achylia gastrica.
79 Relationship of B. Faecalis Alkaligenes to Typhoid Bacilli. E. Aitschuler.—Ueber die Beziehungen des B. faec. alk. zu den Typhusbazillen.
80 *Zur Therapie des Menière'schen Schwindels (vertigo). O. Veraguth.
81 Bloodless Treatment of Congenital Hip Dislocation. B. Lange (Strassburg).—Die unblutige Behandlung der angeborenen Hüftgelenksverrenkung.
82 Aetiologische Betrachtungen über 1 Fall von Myelitis transversa acuta infectiosa postpuerperalis e Parametritide abscedente perforante. O. Schaeffer (Heidelberg).
83 *Zur Behandlung der Psoriasis durch den praktischen Arzt (treatment by general practitioner). Dreuw (Unna's Dermatologikum, Hamburg).
84 *Mode of Origin of Tuberculosis. Volland (Davos).—Zur Entstehungsweise der Tub.
85 *Is the "Painful Empty Stomach" a Nervous Affection? F. Ehrlich (Stettin).—Ist die "schmerzhafte Magenleere" eine nerv. Erkrankung?
86 Zur 25 jährigen Professoren-Jubiläum von Franz Riegel. G. Honigmann.
87 *The Puschmann Endowment for the History of Medicine.

78. **Intestinal Disturbances in Achylia Gastrica.**—Tabora has observed the typical diarrhea in only about 20 per cent. of the cases of gastric achylia in the Giessen clinic. He attributes the diarrhea mainly to the fact that the altered gastric secretions produce conditions in the intestines favorable to the proliferation of the putrefaction bacteria while the fermentation bacteria find little or no nourishment, and "facultative" bacteria may migrate unhindered from the stomach into the intestines. By their combination with the first group or the preponderance of the latter, with the resulting excess of putrefactive processes, the intestines are incited to excessive peristalsis with inevitable diarrhea in consequence. The physician should aim to reduce these processes, and this is best accomplished by aiding Nature—simply reducing the intake of albumin while increasing that of the carbohydrates. This deprives the putrefaction bacteria of their favorable medium, while it provides better conditions for the vitality of the fermentation agents. His experience has demonstrated that an exclusive milk diet answers the purpose admirably, as he shows by tabulating some of his cases.

80. **Treatment of Meniere's Vertigo.**—Veraguth describes 2 cases treated with the ordinary measures, supplemented by application of the galvanic current to the ears, three minutes to each ear, once a day: the cathode, 5 by 15 cm., to the back of the neck; the anode, 5 by 5 cm., over the ear; the current .5 to 1.5 milliamperes. Improvement after the electric applications was strikingly evident. In one it occurred at once and in the other after a few days.

83. **Treatment of Psoriasis.**—Dreuw reiterates his former assertions in regard to the great therapeutic value of his combination of green soap and chrysarobin for the treatment of psoriasis. Hundreds of cases treated with it, both at Hamburg and elsewhere, confirm its efficacy. Lassar now uses it altogether. The salve is rubbed into the patch with a paint brush morning and evening, for four to six days. The fifth and sixth days the patch is laved with warm water and vaselin is thoroughly rubbed in, once to three times a day. This is repeated for one to three days, and then the salve is recommenced, going over the same eight-day course from one to three times. His formula is 10 parts salicylic acid, 20 parts each of chrysarobin and oleum rusci, 25 parts each of green soap and vaselin. The salve thus made combines keratolytic, reducing, peeling and specific antipsoriasis remedies.

84. **Mode of Origin of Tuberculosis.**—Volland affirms that scrofula is a dirt disease and may develop into tuberculosis if there happen to be any tubercle bacilli in the dirt on the children's hands. The public should be urgently warned in regard to the grave danger of auto-infection from the dirty hands of little children. They should not be allowed to creep on the floor. In learning to walk they should always be held up by the hand or by a band, and in case they fall the little hands should be carefully cleansed of all dirt, even dry dust. The toys should be kept scrupulously clean in the same way. The child's nose and mouth should be wiped to keep them constantly dry. It must be impressed on the public that the future health of the child depends on the most scrupulous cleanliness of the child and its hands during its second year and later. Children must be trained from the cradle to abhor dirty hands. In his experience persons who have once had and recovered from a tuberculous affection seem to bear a certain predisposition to the disease later, although years of health may intervene. By protecting little children against the dirt disease we strike at the root of the evil of tuberculosis.

85. **"Painful Empty Stomach."**—This condition is classed in the text-books usually as a nervous affection, but Ehrlich cites a number of instances to demonstrate that it is far more likely to be the first symptom of an ulcer.

87. **The Puschmann Endowment.**—THE JOURNAL has mentioned the legacy of $125,000 left by Professor Puschmann of Vienna to the University of Leipsic to be applied to the history of medicine. This "Fifth-Avenue Gift" to the Cinderella of the medical sciences places Germany in the front rank in this line. A historical museum of medicine is planned and a special seminary for training persons in medico-historical research and in historiography, with a salaried director and assistant. The names of Sudhoff and von Oefele have already been suggested, both eminent in the science of the history of medicine. Puschmann was a native German, and professor of the history of medicine at Leipsic until 1879, when he accepted a call to the similar chair at Vienna. He died in 1899 and his will was contested at first, but the money has now been paid to the university.

Brazil Medico, Rio de Janeiro.

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88 (XVIII, No. 9.) O leite esterilisado a luz dos estudos et investigaçoes recentes (sterilization of milk). C. Ferreira.
89 Draft of Bill for Protection of Infants Voted by Fifth Brazilian Congress.
90 (Nos. 10-11.) Milk Hygiene. Moncorvo Filho.—Das amas de leite no Brazil.
91 (No. 12.) Yellow Fever and the Mosquito. E. Perroncito.—Febbre amarella e mosquito.
92 Tratamento das enterites chronicas na primeira infancia. J. Pinto.
93 *Sanitary Services of Brazil.—O novo regolamento dos serviços sanitarios da Uniao.
94 (No. 13.) *Puerimetro. Moncorvo Filho.
95 O garrotilho (epizootic disease). J. C. de S. Fortes.
96 (Nos. 14-15.) *Tratamento do cancro (cancer). V. de Britto.
97 Das suppuraçoes chronicas da attica na infancia. L. Rocha.
98 A dysenteria epidemica. O. de Freitas.
99 (Nos. 16-17.) Hematologia do beriberi. H. Duque Estrada.
100 (No. 18.) Frequencia da tabes dorsalis no Brazil. Azevedro Sodré.
101 (No. 19.) Paludismo e mosquitos no Rio de Janeiro. F. Fajardo.
102 Perturbaçoes mentales nos negros do Brazil. H. Roxo. (Commenced in No. 16.)
103 (No. 20.) Report of Second Latin-American Medical Congress, Buenos Aires, April 3-9, 1904. See XLII, page 1440.

93. **The Brazilian Sanitary Service.**—Recent legislation has materially modified the preceding regulations in regard to the sanitary services. The bill was drafted by Dr. M. Mattos, senator from Rio. It abolishes quarantines, and establishes that each infectious disease shall receive special treatment, in accordance with the latest conquests of hygiene. It does not include dysentery among notifiable diseases, which is editorially regretted, as it is liable to assume epidemic proportions at any time, as in Pernambuco at the date of writing.

94. **Weighing and Measuring Machine for Children.**—The apparatus consists of a sliding table in a standard, the whole suggesting a slot machine. The infant is laid on the table, the child stands on the tread of the stand. A large tablet is fastened to the back of the stand with spaces designated for the record of the weight, age and height. This simple and convenient apparatus is designed for repeated weighings and measurements of children to show the rate of growth, compared with other particulars, race, heredity, morbidity, etc. The description is illustrated.

96. **Arsenic Treatment of Cancer.**—De Britto gives a number of illustrations showing the apparent cure of 6 cases of epithelioma of the face under treatment with arsenious acid according to the Cerny-Trunecek method.